

National Council for



Osteopathic Research

Annual Report

2007 – 2008

October 2008

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The Role of the National Council for Osteopathic Research (NCOR)

This is the fifth Annual Report from the National Council for Osteopathic Research (NCOR) since its foundation in March, 2003. NCOR is an independent body that is supported by funding from the General Osteopathic Council (GOsC), the British Osteopathic Association (BOA) and each of the accredited colleges of osteopathy in the United Kingdom. Each of the stakeholders who contribute financially have representatives at NCOR. There are two additional representatives who represent private practitioners and NHS practitioners. The full constitution of NCOR is listed on page 103. All of the college representatives have experience within the field of osteopathic research and are currently involved in the academic institution they represent.

Since its foundation, NCOR has had an independent Chairperson, Professor Ann Moore. In October, 2003, NCOR held a strategic planning event to formalise its Vision and Mission statements (page 102) and its research strategy for the next five years. A Draft Strategic Plan was formally produced and can be found in the NCOR Annual Report for 2004/5 which is available on the NCOR website (www.ncor.org.uk).

NCOR is based at the Clinical Research Centre in the School of Health Professions at the University of Brighton. The Chair is Head of the Clinical Research Centre for Health Professions (CRC). A Research Officer, Carol Fawkes, was appointed in February, 2004 and is present at the CRC for four days per week. The CRC has also funded a new post of part time Senior Research Fellow in Osteopathy, which Dr Janine Leach took up in May, 2004.

The lifeblood of any therapeutic discipline lies in its ability to generate, refine and continuously test new knowledge. Such a commitment is a hallmark of a forward thinking and serious profession and ensures the protection of both patients and professionals. Researching osteopathic practice and learning from that research should be at the heart of the way the profession thinks; it is from this stance that NCOR was created. However, the NCOR approach is not prescriptive. NCOR aims to work with the profession to foster and encourage but not enforce research, and to meet the needs identified by the profession as a whole.

Report from the Chairman of the National Council of Osteopathic Research

Report from the Chairman of the National Council for Osteopathic Research 2007-2008

Welcome to this year's Annual Report from the National Council for Osteopathic Research (NCOR). This report celebrates the end of five years of research infrastructure development within NCOR and the osteopathic profession. The vision and mission statements for NCOR for the period of 2003-2008 are appended for information to illuminate the progress that has been made since March 2003, and which is evidenced by the activities reported in this publication.

When I first took over as Chair of NCOR in 2003 there was little verbal communication between NCOR members around the table, let alone collaborations between the osteopathic educational institutions (OEIs). In this report you will see how significant progress has been made in relation to the establishment of collaborations for research purposes between the OEIs which enhances the credibility of any research proposals that are made, and the subsequent research activities undertaken. The success of these collaborations is highlighted in the text in relation to grant submissions and grant acquisition.

An organisation like NCOR cannot operate without support, and we are fortunate to have had the support of Carol Fawkes as full time Research Officer (the only full time paid member of NCOR). Carol has been tireless in her support of Research Hub development and sustaining their activities. She has administratively supported myself as NCOR Chair, NCOR itself and has regularly liaised with the General Osteopathic Council and the British Osteopathic Association, together with other external bodies in relation to research and evidence-based practice in osteopathy. In short, she has been a hard working and committed colleague whose measured opinions, insider knowledge of the profession, and passion for the profession's development is recognised and highly valued. In this report you will find a summary of Carol's activities during the year and like everything in the written form it never really expresses how much time, effort and emotional energy these activities really take. I cannot thank Carol Fawkes enough for her input this year and over the last five years.

Elsewhere in this report you will read about the activities of most of the OEIs. All OEIs across the country have been asked for their contributions to this report, but some have indicated that they will do this biennially having reported extensively last year. This year we have included a report from the University of Brighton on the osteopathic research activity that has been undertaken within the university, and a full report of the research activities at the Clinical Research Centre for Health Professions where NCOR is based is available on request. Of note is that Dr Janine Leach, who is employed as a Senior Research Fellow on a one day a week basis at the University of Brighton, was entered into the 2007 RAE submission with staff from the School of Health Professions.

The reports enclosed indicate a step change in OEI commitment to the development of the research culture within their organisation and their progress to date in relation to research groupings, publications, presentations and higher degree registrations.

Much of our work in NCOR this year has been focussed on maintaining and strengthening our research infrastructure, and carrying out the Standardised Data Collection project as well as overseeing the governance of the Adverse Events projects. Carol Fawkes' report highlights the work which has been undertaken by NCOR this year.

Our work lately has been the creation of a new business plan for NCOR for the next four years which has been submitted to the General Osteopathic Council for consideration at their December Council meeting. This business plan highlights the need to form more infrastructure development and to provide extra staffing to support NCOR's activities.

Our plans for the future include maintaining and further developing the profession's research infrastructure, including working with OEIs to strengthen their approaches to building a strong and positive research culture amongst undergraduate students. We will also be focussing on the completion of the Standardised Data Collection project which should occur in the spring of next year and, with appropriate support, we envisage conducting a number of snapshot surveys to map the clinical delivery of osteopathy nationally, and also developing a profile of patients accessing osteopathic treatment. This work will undoubtedly help to facilitate the development of stronger research questions in the future.

We will be developing two pocket guides to help members of the profession and its student population engage more with research and audit activities, and we will be working closely with the Osteopathic Educational Foundation (OEF) to develop fund raising opportunities for research. In addition we will be proactively developing links with various individuals and organisations to raise the profile of osteopathic research activities both nationally and internationally.

Lastly we will be looking at the development of research priorities, building on the standardised data collection work and also some qualitative research work to be undertaken.

Finally I would like to thank all NCOR members for their input and commitment to NCOR's activities over the last year and for their continued united support in the development of an evidence- informed profession.

I do hope you enjoy reading this report.

Professor Ann Moore
Chair of National Council for Osteopathic Research

Research Officer's Report

Since the last report was published, a great deal has been achieved by NCOR in meeting its stated objectives. The areas in which achievements have been made and where work is ongoing are described below.

Osteopathic Research Evidence: Considerable time continues to be spent trying to locate published and unpublished osteopathic research to populate the database of completed osteopathic research. The Information Technology team at the British School of Osteopathy have offered to programme the information to make the database searchable and this will be accessible from the NCOR website via a link.

Enquiries from osteopaths, higher education institutions (HEIs) and general practitioners, Primary Care Trusts (PCTs) and students at Osteopathic Educational Institutions (OEs) continue to be received. There has been a noticeable increase in the number of osteopaths who have been asked to give presentations at higher profile events to mixed professional groups. Additionally, increasing numbers of osteopaths have expressed an interest in producing contributions for the International Journal of Osteopathic Medicine (IJOM) and have requested background literature searches and assistance with preparation of their publications. The numbers of enquiries received during the past year from within and outside the profession totals 452.

In response to growing concern voiced by members of the profession concerning information on risks associated with osteopathic treatment, NCOR developed a call for proposals to examine this area of clinical practice. The award of funding was announced on 18th October, 2007. Awards were made as follows:

Proposal 1: Adverse events associated with physical interventions in osteopathy and relevant manual therapies. The duration of the project is 1 year and the grant awarded was £37,500.

The successful lead applicant was Dr Dawn Carnes (Barts and The London) in collaboration with Mrs Brenda Mullinger (European School of Osteopathy) and Professor Martin Underwood University of Warwick Medical School).

Proposal 2: Communicating risk and obtaining consent in osteopathic practice. The duration of the project is 6 months and the grant awarded was £7000.

The successful lead applicant was Dr Janine Leach (University of Brighton) in collaboration with Dr Anne Mandy (University of Brighton), Mr Matthew Hankins (Brighton and Sussex Medical School) and Ms Rachel Ives (College of Osteopaths).

Proposal 3: Insurance claim trends and patient complaints to the profession's regulator. The duration of the project is 1 year and the grant awarded was £18400.

The successful lead applicant was Dr Janine Leach (University of Brighton) in collaboration with Dr Anne Mandy (University of Brighton), Professor Elizabeth West (University of Greenwich), Mrs Brenda Mullinger (European School of Osteopathy) and Ms Rachel Ives (College of Osteopaths).

Project 4: Investigating osteopaths' attitudes to managing and assessing risk in clinical settings and patients' experiences and responses to osteopathic treatment.

The duration of the project is 2 years and the grant awarded was £140000.

The successful lead applicant was Mr Steven Vogel (British School of Osteopathy) in collaboration with Dr Tamar Pincus (Royal Holloway, University of London), Professor Martin Underwood (University of Warwick Medical School) and Dr Sandra Eldridge (Barts and The London).

Dr Carnes study (Project 1) is ongoing and Dr Leach's study (Project 3) is also underway. On the advice of the NCOR Research Grants Governance Committee, Project 2 will begin when Project 1 has been completed and its findings are known; this will provide useful information for Project 2). Project 4 has not yet begun.

Communication:

The NCOR website, launched in June, 2005 (www.ncor.org.uk), is continually being populated with information that is useful for both practising osteopaths and osteopathic researchers.

The website is updated regularly to give current information about conferences, calls for papers for conferences, and conference reports. Information concerning the dates of the research hub meetings and the topic area(s) being discussed or activity undertaken is also posted on the website. Articles on aspects of research that originally appeared in *The Osteopath* have been progressively placed on the website in PDF form.

The Osteopath and *Osteopathy Today* remain a source of communication for those osteopaths who do not have internet access. A series of articles for *The Osteopath* have been prepared throughout the past year concerning various aspects of evidence based practice. The titles, dates and authors of the articles are given below:

Glucosamine: a brief overview of the evidence. *The Osteopath*. 2007;10(8): 16-20.

Research news in brief. *The Osteopath*. 2007;10(9):15-19.

Standardised data collection. *The Osteopath*. 2007;10(10):22-26.

The Battle for Ideas (by Dr R MacDonald). *The Osteopath*. 2008;11(1):22-26.

Osteopathy: Art and Science- an international research conference, and research news in brief. *The Osteopath* . 2008;11(2): 17-21.

The use of ice in patient management – a brief review of the evidence. *The Osteopath*. 2008;11(3):24-27.

Research news in brief. *The Osteopath*. 2008;11(4):15-19

Research Hubs: The network of research hubs has been active throughout the past year. The hubs have provided further feedback and begun to pilot the standardised data collection tool for osteopathy. A list of hub meeting dates and the activities undertaken are listed below. The hubs are steadily developing and are becoming integrated further into the OEIs and HEIs. Details of hub meetings can be found on the website www.ncor.org.uk.

Oxford Hub:

This group has met on Wednesday evenings at Mill Court Clinical Centre at Oxford Brookes University on. It has worked on providing feedback concerning the piloting of the SDC tool, has engaged in some critical appraisal work and looked at published

research findings concerned with various clinical areas. The hub members carried out a study examining the minimum standards for case history taking in osteopathy and their findings were presented as a poster at the February Osteopathic Research conference and is being prepared for publication. Hub members are currently looking at a project examining impingement of the structures in the shoulder joint. The hub has benefitted from the considerable contribution of Mr Jorge Esteves and Dr Delva Shamley who are utilising the research resources at Oxford Brookes University for the benefit of hub members. Regrettably Dr Shamley has recently left Oxford Brookes and relocated to the University of Bournemouth.

Leeds Hub:

This group has met on Tuesday evenings and continues to be hosted by Leeds Metropolitan University. The group has been engaged in the pilot process for the standardised data collection tool and provided valuable feedback. Literature concerning patient satisfaction has been examined with a view to creating a questionnaire suitable for osteopaths to use in private practice. More recent meetings have focussed on looking at outcome measures and their application to clinical practice.

Exeter Hub:

This group has met at Peninsula Medical School, Exeter on Saturday mornings. This group has followed up its involvement in the development of the SDC tool by piloting the tool and providing extensive feedback. The hub members carried out a study examining consent in clinical practice. This study was presented as a poster at the February 2008 research conference and is being prepared for publication. Hub members have also been examining the literature concerning the use of patient information sheets in clinical practice. Currently, hub members are examining the number of osteopaths who are leaving the profession and are developing a questionnaire to pursue this area of study.

London Hub:

This group regrettably remains the smallest of all the hubs. It has met at Osteopathy House and more recently at the British School of Osteopathy under the guidance of Steven Vogel on Tuesday evenings. Hub members have been involved in developing the SDC tool and piloting it in clinical practice. The wide range of conflicting CPD activities in London has presented a challenge to hub attendance and the hub is currently taking a break from regular meetings.

Bristol Hub:

Since its involvement in the development and piloting of the SDC tool, the Bristol group has undertaken a variety of different activities. Hub members have chosen to focus on looking at osteopathic research concerning different clinical issues: heel height and back pain, and bunions have all been discussed. More recently the hub members have undertaken a small pilot project looking at referral patterns by osteopaths. This study was presented as a poster at the research conference in February and is currently being prepared for publication. Hub members have undertaken an audit to examine the demographic variation in patients presenting in osteopathic practice with low back and neck pain during the past 20 years: data is currently being added to this study and it will be prepared for publication.

Sussex Hub (Haywards Heath):

This group continues to meet on Sunday mornings and has undertaken a variety of activities at its meetings. Hub meetings have involved providing feedback concerning the piloting stages of the SDC tool, learning how to literature search and looking at research concerning areas of clinical interest to group members. The group has developed a case series concerned with osteopathic treatment during pregnancy: this will be prepared for publication in IJOM and was presented as a poster at the February research conference. The group is currently looking at the literature concerning job satisfaction and is designing a questionnaire to run a pilot study.

Scottish Groups:

The Scottish hubs (Perth and Glasgow) met at the end of January to provide further valuable feedback after piloting the SDC tool.

The **Osteopathic Research Governance and Ethics Framework** (RGF) was completed in 2006. The framework has been used in osteopathic educational institutions; a shorter summary has been prepared in a user friendly format for use by practising osteopaths to introduce them to the concept of a RGF. Both documents were updated in July, 2007 and are available on the NCOR website (www.ncor.org.uk/rgf/index.htm).

Research Conferences: An NCOR research conference took place on 1st February, 2008 as part of the three day “Advancing Osteopathy conference organised to mark 10 years since the creation of the General Osteopathic Council (GOsC). The NCOR stakeholders provided a varied list of potential speakers from the UK and overseas while planning the programme and the stakeholders were very involved in all aspects of the day and were a great source of support during the event. It was encouraging to see presentations from so many osteopaths who were undertaking or had completed their PhDs. The quality of the keynote and PhD research presentations were excellent. The debating sessions allowed many osteopaths to contribute their views and participate fully in the day.

A series of keynote presentations were given including:

“What’s the evidence? - Osteopathy answers back” by Professor Ann Moore.

“How research informs osteopathic practice” by Dr Ian Drysdale, Principal, British College of Osteopathic Medicine, London.

“Using and abusing evidence – international perspectives” by Mr Rob Moran, lecturer at Unitec New Zealand, New Zealand editor of *International Journal of Osteopathic Medicine* and practising osteopath, and Mr Nicholas Lucas, lecturer at University of Western Sydney, Australian editor of *International Journal of Osteopathic Medicine* and practising osteopath.

“Clinical biomechanics – what’s in it for osteopaths?” by Professor Raymond Lee, Professor of Biomechanics, University of Brighton.

“To work or not to work: advising your patients” by Professor Kim Burton, Lead Director, Spinal Research Unit, University of Huddersfield:

A closing plenary address was given by Mr Charles Peers, practising osteopath, Plymouth, Devon.

A series of debates and symposia took place to allow osteopaths to contribute their thoughts on topical areas in the profession. These included:

“Osteopathy should get back to its roots and do what it does best” which was chaired by Mr Michael Watson, Chief Executive, the British Osteopathic Association. Mr Robin Kirk, Principal of the London School of Osteopathy and practising osteopath,

and Mr Martin Pendry, practising osteopath and NCOR NHS Practitioners' representative (lead) spoke for the motion. Mr Rob Froud, PhD student, Barts and The London and practising osteopath and Mr Jorge Esteves PhD student at Oxford Brookes University and practising osteopath (lead) spoke against the motion.

A symposium discussion took place entitled: "Publish or perish – what's the point" and was chaired by Mrs Brenda Mullinger, Postgraduate Research Development Officer at the European School of Osteopathy. The contributors were Mr Nicholas Lucas, Dr Janine Leach, Mr Robert Moran and Professor Ann Moore.

The final debate of the day was entitled: "Without research osteopathy is a fossil -but can clinical trials tell us what we want to know about osteopathy?" This was chaired by Dr Roderic MacDonald, Head of Research at the London College of Osteopathic Medicine. Contributors included Dr Janine Leach and Dr Nefyn Williams, senior clinical lecturer, University of Wales College of Medicine, and practising osteopath speaking for the motion. Mr Tim McClune, PhD student, University of Brighton, and practising osteopath and Dr Dawn Carnes, PhD, Barts and The London, School of Medicine and Dentistry, and practising osteopath spoke against the motion.

A series of invited abstracts were given by osteopaths who had recently completed their PhDs or whose studies were ongoing. These included:

Dr Louise Potter, PhD, University of Manchester, practising osteopath and medical student: Exploring the physiological effects of spinal manipulation.

Mr Tim McClune, PhD student, University of Brighton, and practising osteopath: UK Osteopathy; politics and society.

Dr Dawn Carnes, PhD, Barts and The London, Queen Mary's School of Medicine and Dentistry, and practising osteopath: Chronic musculoskeletal pain rarely presents in a single body site: results from a UK population study.

Dr David Evans, PhD, Keele University, and practising osteopath: Osteopaths and back pain - are we doing the right things?

Ms Annette Pantall, PhD student, University of Surrey, and practising osteopath: Patterns of surface electromyographic activity recorded during the stance phase in transfemoral amputees with osseointegrated prostheses.

Dr Nefyn Williams, senior clinical lecturer, University of Wales College of Medicine, and practising osteopath: Encouraging exercise in patients with osteoarthritis.

Ms Jo Dear, PhD student, Head of Postgraduate Studies & Senior Research Fellow at the British School of Osteopathy: Back to Exercise - Issues for practising osteopaths.

Mr Jorge Esteves, PhD student at Oxford Brookes University and practising osteopath, PhD student at Oxford Brookes University and practising osteopath: Investigating multisensory integration in osteopathic clinical examination across different levels of expertise: An exploratory study.

These sessions were very ably supported by Mr Steven Vogel, Mr Tom Hewetson, Dr Peter Spencer, Mr Martin Pendry and Mr Vince Cullen who acted as Chair.

A series of posters were contributed for display at the conference. Some of these were prepared based on work carried out by the research hubs. Other posters were contributed by research active osteopaths. Posters included:

Moore AP, Leach CMJ, Fawkes CA. The Development of a Standardised Data Collection Tool for Osteopaths. Advancing Osteopathy 2008. Queen Elizabeth II Conference Centre, London. February, 2008.

Fawkes CA. National Council for Osteopathic Research - Establishing a Network of Research Hubs. Advancing Osteopathy 2008. Queen Elizabeth II Conference Centre, London. February, 2008.

Fawkes CA, Chorley K, Esteves J, Herson D, Leaman J, Morriss C, Phillips K, Power C, Relf M, Scott R. Identifying the minimum requirements in a patient record card for osteopaths. Advancing Osteopathy 2008. Queen Elizabeth II Conference Centre, London. February, 2008.

Fawkes CA, Brice C, Enel A, Ford Z, Howard C, Thompson J, Vickers H. Identifying referral patterns among osteopaths. Advancing Osteopathy 2008. Queen Elizabeth II Conference Centre, London. February, 2008.

Fawkes, CA, Adams, L, Bartlett, L, Brierley, M, Bury, C, Doddrell, J, Farwell, S, Hands, P, Oldham, J, Peers, C, Spencer, P, Welford, S. The creation of an informed consent form for osteopathy by consensus. Advancing Osteopathy 2008. Queen Elizabeth II Conference Centre, London. February, 2008.

Fawkes CA, Baillie S, Brooks J, Gosset N, Keefe V, Lamb S, Mitchell N, Peters T, Sawell P, Wahba T. A case series examining the osteopathic management of patients during pregnancy Advancing Osteopathy 2008. Queen Elizabeth II Conference Centre, London. February, 2008.

- Dévan Rajendran. Monitoring self-reported adverse events in patients attending a UK teaching clinic – preliminary findings from a prospective survey (pilot study)
A pilot study comparing instrumentally obtained resting muscle tonus in low back pain subjects with a control group.
- Brenda Mullinger. Methodological considerations for capturing adverse events data: experience from a feasibility study in a UK school of osteopathy.
- Jamie Dearing. An examination of pressure-pain thresholds (PPT) at myofascial trigger points (MTrP's), following muscle energy technique or ischaemic compression treatment.
- Rob Froud. Outcome measures and power in non-specific low back pain (LBP) trials.
Minimally important change (MIC) and responsiveness of the Roland Morris Disability Questionnaire (RMDQ) and Modified Von Korff (MVK) scales.
- Steve Vogel. Attitudes towards prescribing rights: a qualitative focus group study with UK osteopaths.
Fear avoidance and prognosis in back pain: a systematic review and synthesis of current evidence.
Attitudes to back pain amongst musculoskeletal practitioners: differences between professional groups and practice settings using the abs-mp.
Attitudes to Back Pain Scale in musculoskeletal practitioners

	(ABS-mp); The construction and validation of a new questionnaire.
David Evans	Can Practitioners' behaviour towards back pain be changed? A randomised controlled trial with chiropractors, osteopaths and physiotherapists.
Alan Szmelski	Systematic review of the role of palliative stress management in fibromyalgia Sleep Quality, Musculoskeletal Pain and Perceived Stress In Osteopathic Patients
Caroline Stone	An exploration of the professional identities, interdisciplinary communication and working-together patterns of the Australian manipulative professions and how this leads to effective patient care.
Jane Stark	Still's Fascia: A Qualitative Investigation to Enrich the Meaning Behind Andrew Taylor Still's Concepts of Fascia.
Carol Fawkes	A qualitative evaluation of patient satisfaction with osteopathy in private practice in the United Kingdom. An investigation of patient satisfaction with osteopathy in private practice in the United Kingdom.
Daniel Rollins	Side-to-side weight-bearing asymmetry during standing and hip-carrying posture: a cohort study comparing parous and nulliparous females.
Jan Leach and Ciara Heney	Does osteopathy benefit children with ADHD?
Jan Leach	Patients perceptions and satisfaction with treatment in a UK osteopathic training clinic.
Julian Howard and Ian Drysdale	"The temporal effect of a high velocity thrust technique to the lumbar spine on cutaneous blood flow in the lower limb, comparing smokers and non-smokers"

NCOR Representing Osteopathic Research:

The National Electronic Library for Health: Complementary and Alternative Medicine section (NeLCAM) was officially launched on 15th May, 2006. I have been asked to represent osteopathy as associate editor and have attended their occasional board meetings throughout the year. A feature on osteopathy was prepared with the approval of the NCOR stakeholders. A National Knowledge Week is being held by the library for October, 2008 to be held in tandem with the conference of the Royal College of Physicians. I have prepared a series of commentaries for the library throughout this year including studies by Nefyn Williams, Brian Degenhardt, Simon Dagenais, and the BEAM trial team. The library is being increasingly used by all health professions and the current information available is progressively growing. This can be found at www.library.nhs.uk/cam.

Future Work: A good deal of the groundwork in terms of strategic planning has been completed by NCOR during the past four years. The demands on NCOR and its stakeholders continue to grow and the expectations of the profession remain high. A new strategy for the period 2008 to 2012 is currently being prepared; priorities remain in

terms of maintaining the infrastructure already developed and a series of new priorities are being identified to support osteopathy in the future as a maturing profession. Political developments continue to impact on the wider healthcare arena and osteopathy must be responsive to such developments. Inevitably there are far more items in strategic development to be accomplished for osteopathy than time, manpower and financial resources allow: a number of key areas will be focussed upon by NCOR to benefit all stakeholders in osteopathy.

Carol Fawkes
Research Development Officer
NCOR

**Research Reports from the Osteopathic Educational
Institutions in the United Kingdom.**

The reports are printed in alphabetical order in the format and font supplied by each individual institution.

British College of Osteopathic Medicine (BCOM)



**RESEARCH REPORT
2007 – 2008**

October 2008

**RESEARCH REPORT
2007 – 2008**

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THE BCOM RESEARCH REPORT

The Research Report has been a long-running feature of BCOM's internal annual reporting and is unique in that it also has formal external functions, in that it is separately supplied to NCOR. The report is written by the Head of Research in liaison with the research-active staff at the College, and has cross-over with other reports, including the Academic Standards Report and the Learning Resources Report. The latter considers the laboratory and library resourcing which have significant impact on research at BCOM.

BCOM'S COMMITMENT TO RESEARCH

It is believed that the new validation of the Masters in Osteopathy (M.Ost) in partnership with London Metropolitan University will further enrich BCOM's research ethos and profile and encourage the growth of postgraduate research within Osteopathy. London Metropolitan has extensive laboratory and other research facilities and it is hoped that the partnership with the Health & Human Sciences Department will offer new opportunities.

BCOM's commitment to Osteopathic research was further strengthened by a greater number of collaborations with osteopathic and non-osteopathic institutions during 2007/8.

THE FOUR MAIN PRIORITIES OF THE RESEARCH DEPARTMENT

- To gain external funding for institutional research programmes.
- To enhance the profile of the International Conference on Advances in Osteopathic Research (ICAOR).
- To promote collaborative research.
- To increase the proportion of BCOM staff engaged in published research.

EXTERNAL RESEARCH COLLABORATIONS BY BCOM STAFF

Collaboration on two projects is ongoing with the MRC Nutrition group at The Institute of Child Health (ICH) in London, Dr Ritchie at Edinburgh University and University College London (UCL).

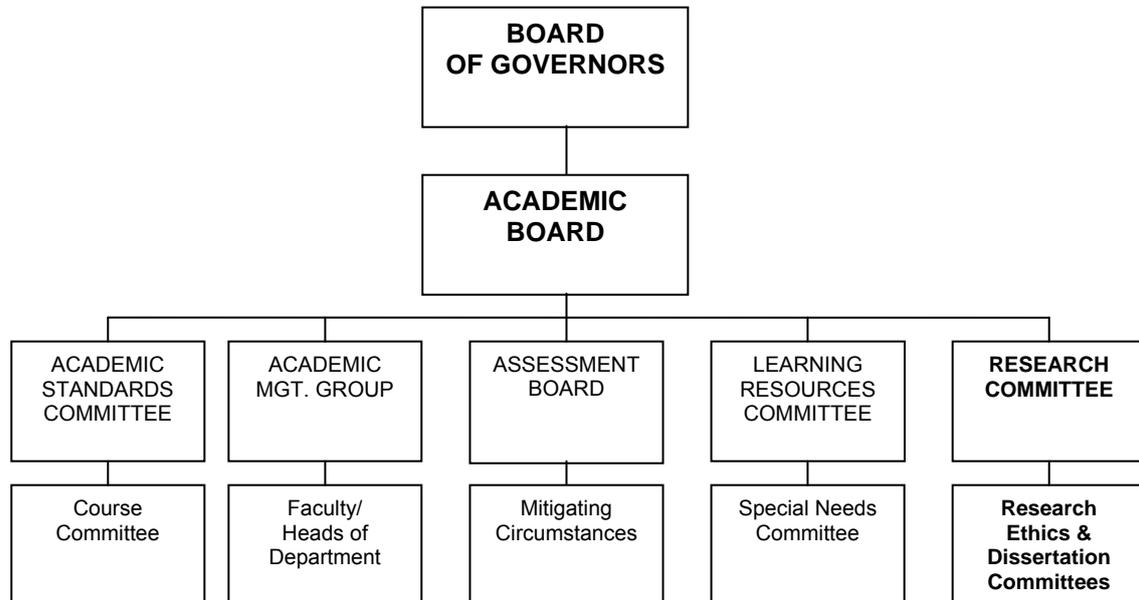
New collaborations regarding two projects are being initiated with Queen Mary's University of London Neuroscience and Neurosurgery department at the Institute of cellular and molecular Science and The Biomechanics group at Roehampton University.

Collaboration between the Heads of Research from the Osteopathic HEIs is ongoing with a specific future project in mind.

THE RESEARCH DEPARTMENT

RESEARCH WITHIN THE CONTEXT OF BCOM COMMITTEE STRUCTURE

The BCOM Academic Committee Structure



Research Committee

Membership: Principal, Head of Research, Senior Research Active Staff.
Meets minimum three times per year

Research Ethics Committee

Membership: Principal, Head of Research, co-opted members (minimum of two, maximum of four), at least two of whom shall have qualifications in Osteopathy and/or clinical practice, BoG representative, patient representative. Meets a minimum of twice per year

Dissertation Committee

Finalises third-year title allocations and reviews final dissertation marks. Meets twice a year.

STAFF RESEARCH ACTIVITY

ONGOING STAFF PROJECTS

Fibre Composition Of The Hypoglossal Nerve And Its Relation To The Development Of Speech

Lead: Dr Arjmand Saaid with Professor C Dean, University College London (UCL)

This is a comparative study, based on counting nerve fibres forming the hypoglossal nerve, taken from human cadavers at the UCL dissection room, comparing the average number with the fibre composition of hypoglossal nerves of non-human primates. So far, 30 human hypoglossal nerves have been dissected. All nerve specimens are sent for histological processing, using various histological stains, digitally photographed and counted using dedicated software at UCL laboratories. Samples of hypoglossal nerves are also currently being taken from apes for comparison purposes.

Analysis of BCOM Clinic Data

Lead: Dr Heather Hinkley

Since October 2003, patient data has been entered onto DataEase, a computer database. There are now in excess of 10,000 consults on the system. Students and staff use this resource for research.

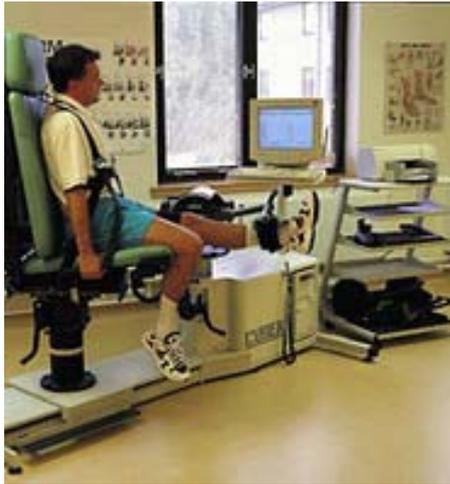
London Marathon Bone Health Study

Lead: Dr Heather Hinkley and Dr Ian Drysdale



Following on from a study carried out in 2004 on 403 London marathon runners and subsequent publication, novice runners aiming to run in the London 2009 marathon will be recruited in October 2008 for a new study. BUA will be assessed throughout their training schedule and post-marathon. A number of other physiological measures will also be investigated at the same time, e.g. body composition using the BodPod, muscle strength using the Cybex and fluid balance.

Adverts are being placed on the 'real buzz' website linked to the London marathon, which gives access to 20,000 runners via a newsletter and flyers included in packs are being sent out to runners running for the charity 'Shelter'. Contact with 'Runners Need' organisation has also been made in order to enhance recruitment.



Cybex



BodPod

Bone Health of Vegans

Lead: Dr Heather Hinkley

A major collaboration was initiated with Dr Margaret Ritchie from Edinburgh University regarding analysis of vegan specific food frequency questionnaires (FFQ). Two poster presentations resulted from this and minimal additional cost was incurred, as it was a collaborative venture.

Representatives attended the Bristol vegan fayre in June 2008 for the third consecutive year to continue to collect BUA and questionnaire data. 172 vegans were scanned. A number of subjects who had recently become vegan are also being followed up yearly. A European Prospective Investigations of Cancer physical activity questionnaire was also introduced for this cohort. These FFQs will be analysed to add to previous data.



CubaClinical measuring
BUA of the calcaneus

Fracture risk prediction

Lead Dr Hinkley and Daphne Bird

Questionnaires are being distributed to 1125 subjects who attended the BCOM Ultrasound fracture risk assessment clinic from 1998 to end 2000, to determine accuracy of fracture prediction over the succeeding period to the end of 2008.

NEW PROJECTS

- **Working title: The effects of omega-3 fatty acid supplementation on movement disorders in children**

Lead: Dr Simon Dyall

In collaboration with Efamol we aim to investigate the effects of chronic dietary supplementation with the long chain omega-3 fatty acids eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) on movement disorders in children with developmental coordination disorders.

There is preliminary evidence of beneficial effects with omega-3 fatty acid supplementation on movement skills in children with dyspraxia and Attention Deficit Hyperactivity Disorder (ADHD). However, in these studies movement was assessed by the ABC Movement Assessment Battery for Children. These studies will be furthered by using more sensitive indices of performance. Analysis will involve both static and dynamic balance via the RS Scan footplate and muscle activity via Electromyography (EMG). The protocol will also involve an initial blood fatty acid compositional analysis to establish baseline values and a post-study analysis to confirm incorporation/rectification. The study will be a randomised double-blind placebo controlled trial and will run for 12 to 16 weeks (depending on term time), aiming for a minimum of 20 subjects per group.

Other studies

- Patients' experiences of osteopathy
- Validation of the vegan specific food frequency questionnaire, in collaboration with Dr Ritchie.
- Collaborative biomechanics study, in collaboration with Roehampton University.

FACULTY RESEARCH INTERESTS IN 2007-8

Lead Researchers

Anatomy in particular the neuroanatomy of the Hypoglossal nerve: Dr A Saaid/Dr IP Drysdale

Bone Health: Dr H Hinkley/Mrs Daphne Bird/Dr IP Drysdale

Clinic data analysis: Dr IP Drysdale/Dr H Hinkley

Omega 3 supplementation: Dr Simon Dyall, nutritionist, joined as a fulltime member 2007/8.

Two other faculty members will be involved in the collaborative biomechanics study.

STUDENT RESEARCH ACTIVITY

UNDERGRADUATE RESEARCH

47 fourth year students submitted dissertations. 21.3% of students attained an A grade; 44.7% B; 21.3% C; 8.5% D and 4.3% were referred.

1. A comparison of the effects of treatment by contrast hydrotherapy and soft tissue techniques on muscle function
2. Time limited soft tissue technique and its effect on superficial blood flow to the lower limbs
3. The effect of lumbar spine high velocity low amplitude thrust on peak plantar pressure during dynamic gait
4. The effects of cervical spine manipulation at c 3/4 on tidal volume and the rate of breathing
5. Manual therapy in the management of endometriosis
6. A study to compare the effects of thoracic soft tissue techniques and high velocity thrust techniques on cutaneous blood flow to the upper limb
7. The difference in change of hamstring flexibility of rugby players treated with NMTs or METs
8. A survey of practices offering osteopathic care for horses
9. An investigation into the level of effectivity of different warm temperatures at improving cutaneous blood flow to the upper limb
10. A study of the relationship between bra cup size and local erector spinae function using SEMG
11. Application of osteopathic intervention during the acrophase of the Circadian rhythm. What effect on chest expansion and forced expiratory volume?
12. A comparison of the effect of inspiratory muscle training on lung function in males and females
13. The evaluation and effect of muscle energy technique on the strength of the hamstring muscle group
14. The effect of core strengthening exercise on low back pain in dressage riders
15. The effect of a muscle energy technique on the gluteus medius muscle and the impact of the stride width in walking gait
16. Comparison of the effects of thoracic HVT and visceral techniques applied to the pleura on lung function
17. The effect of thoracic spinal manipulation on heart rate
18. A study to compare the effect of thoracic spine HVLAT against thoracic spine flexion mobilisation on thoracic spine flexion range of motion
19. A study measuring how long the effects of a training regime last on the quadriceps femoris
20. The effect of psoas met on lumbar range of motion and hip extension
21. The adherence of BCOM low back pain patients to exercise regimens
22. The effect of clothing and hair on body volume as measured by air-displacement plethysmography

23. Effects of muscle energy techniques and active stretching of the hamstrings on knee range of movement
24. Do professional football teams show a preference for physiotherapists, osteopaths or chiropractors when choosing to use manual therapists?
25. The effects of contrast hydrotherapy on muscle strength
26. Muscle energy techniques a comparative study of two variations
27. The incidence of low back pain in taekwondo
28. The effect of cold hydrotherapy on the rate of fatigue on the lumbar extensor muscle groups
29. The effects of hot and cold douche on gastrocnemius muscle strength
30. The effect of thoracic mobilisation on cutaneous blood flow to the lower limb
31. A comparison of the effect of inspiratory muscle training on lung function in asymptomatic active and sedentary individuals
32. Comparison of the duration of effect of motor imagery against a cervical spine high velocity low amplitude thrust (HVLAT) technique on cervical range of motion
33. The effect of soft tissue treatment to the diaphragm on cutaneous blood flow to the lower limb
34. The effects of high velocity low amplitude thrust at L1-L3 on lung function tests
35. The mechanism of action of strain counterstrain: an investigation into strain counterstrain's effects on cutaneous blood flow
36. The effects of faradic electric neuromuscular stimulation of asymptomatic quadriceps femoris on strength and girth
37. An investigation into the effect of suboccipital stimulation on the stress response
38. The effect of the douche on motor unit activity of the upper trapezius muscle
39. The effect of muscle energy technique on the cervical suboccipital muscles on static balance
40. The effects of hot hydrotherapy and mobilisation techniques on cervical spine range of motion
41. An investigation into the effect of contrast hydrotherapy applied to the lumbar sympathetic outflow levels on the cutaneous blood flow to the lower legs
42. The effect of seated postures on lung capacities and rib mobility
43. The effects of lumbar spine HVLAT on upper limb cutaneous blood supply
44. Measurement of venous return of the extremities following osteopathic treatment
45. The effect of muscle energy technique on the psoas muscle during the stance phase of gait
46. The effect of core stability exercises on low back pain within the teaching profession
47. The effects of high-heels on the lumbar spine and sacrum

Three students (titles 8, 24, 41) submitted abstracts of their dissertation to the Chiropractic, Osteopathy and Physiotherapy student conference to be held at AECC in Bournemouth on 25th October 2008.

Two 2008 graduates and one 2007 graduate gave presentations at ICAOR 7 in Florida in September 2008.

POSTGRADUATE RESEARCH

One student is registered for a part-time MPhil/PhD (registered 2004) with the University of Westminster. The title is Visceral Osteopathy and Autism and the expected completion date is 2011.

BCOM AND THE OSTEOPATHIC RESEARCH COMMUNITY

ICAOR 7 was hosted at LECOM in Florida on 5th to 7th September 2008. Forty-two abstracts were submitted for external review, one was withdrawn, three were rejected, twelve were invited for poster presentation leaving twenty-six oral presentations.

EXTERNAL RESEARCH MEETINGS / TRAINING ATTENDED BY FACULTY

- One day training (Electromyograph) at AD Instruments, October 2007
- National Osteoporosis Society conference in Bath, November 2007
- One day training session at RS Scan (Footplate) in Ipswich, November 2007
- British Pain Association annual meeting in Liverpool, April 2008.
- Advancing Osteopathy 2008, London, February. Dr Drysdale keynote: 'How research informs osteopathic practice.'

Poster presentations

- The Bone Health Of Vegans. ECCEO8 (Eighth European Congress on Clinical and Economic Aspects of Osteoporosis and Osteoarthritis) Istanbul, April 2008
- 8th Biennial ISSFAL (International Society for the Study of fatty Acids and Lipids) Kansas City USA, May 2008
- Soy Health 5th International conference, Ghent, Belgium, June 2008

NATIONAL COUNCIL FOR OSTEOPATHIC RESEARCH

BCOM is a stakeholder in this organisation, which has been set up to act as a unifying body for those parties engaged in Osteopathic research in the UK. Representatives from the Osteopathic Institutions, General Osteopathic Council and British Osteopathic Association are included on the Council. Meetings are held every two months at Osteopathy House. The Head of Research attends this and a number of other meetings in addition to the Research Leaders' group (see above):

Strategic planning day in Oxford in July 2008, Research Governance Committee to review proposals submitted for grants.

The Head of Research will also be attending the heads of research group to discuss a Delphi project to identify priorities in research.

BCOM SUBMISSIONS TO PERIODICALS

Unusual bilateral termination of the cephalic vein

Saaid A. MD, PhD and Drysdale I. PhD. **Due to be published in Journal of Clinical Anatomy in October 2008.**

Neurological benefits of omega-3 fatty acids

Dyall, S.C. & Michael-Titus A.T. **NeuroMolecular Medicine – IN PRESS**

The central nervous system is highly enriched in long-chain polyunsaturated fatty acid (PUFA) of the omega-6 and omega-3 series. The presence of these fatty acids as structural components of neuronal membranes influences cellular function both directly, through effects on membrane properties, and also by acting as a precursor pool for lipid-derived messengers. An adequate intake of omega-3 PUFA is essential for optimal visual function and neural development. Furthermore, there is increasing evidence that increased intake of the long chain omega-3 PUFA, eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA), may confer benefits in a variety of psychiatric and neurological disorders, and in particular neurodegenerative conditions. However, the mechanisms underlying these beneficial effects are still poorly understood. Recent evidence also indicates that in addition to the positive effects seen in chronic neurodegenerative conditions, omega-3 PUFA may also have significant neuroprotective potential in acute neurological injury. Thus, these compounds offer an intriguing prospect as potentially new therapeutic approaches in both chronic and acute conditions. The purpose of this article is to review the current evidence of the neurological benefits of omega-3 PUFA, looking specifically at neurodegenerative conditions and acute neurological injury.

Omega-3 polyunsaturated fatty acids increase the neurite outgrowth of sensory neurones in adult and aged rats

Robson, L.G., Dyall, S.C., Sidloff, D. & Michael-Titus, A.T. **Neurobiology of Ageing – IN PRESS**

Polyunsaturated fatty acids (PUFA) are essential structural components of membranes in the central nervous system. Previous reports have shown that PUFA of the omega-3 series and the omega-6 series can modulate neurite outgrowth in various cell culture models. However, it has not been determined if the neurotrophic effects of these compounds persist in adult and aged tissue. In the present study we prepared cultures of primary sensory neurones from rat dorsal root ganglia (DRG), isolated at different ages: post-natal day 3 (P3) and day 9 (P9), adult (2-4) months and aged (18-20 months). Experiments were carried out on DRG cells isolated from male and female rats. Cultures were incubated with the omega-6 PUFA arachidonic acid (AA) and the omega-3 PUFA eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA), at the concentrations of 0.4, 4, 8 and 40 μM . In some experiments the effects of PUFA were compared to those of nerve growth factor (NGF; 50 ng/mL) and all-*trans*-retinoic acid (ATRA; 1 μM). PUFA had significant neurotrophic effects on DRG cells throughout the developmental stages studied. The effects of omega-3 PUFA were still prominent in aged tissue, and the amplitude of the neurite-

promoting effect was comparable to that of compounds such as NGF and ATRA. No marked differences of PUFA were seen as a function of the sex of the animals, nor between cells positive or negative for the N52 neurofilament marker, which identified mainly non-nociceptive cells. Our results show that PUFA, and in particular the omega-3 series PUFA, have a marked neurite-promoting potential in primary sensory neurones from adult and aged animals.

Omega-3 fatty acids reverse age-related decreases in nuclear receptors

Dyall, S.C., Michael, G.J., & Michael-Titus, A.T. **European Journal of Neuroscience - submitted**

Retinoic acid receptors, retinoid X receptors and peroxisome proliferator-activated receptors are transcription factors involved in many cellular processes including learning and memory. The mRNA levels of retinoic acid receptors and retinoid X receptors decline with ageing, and this decrease can be reversed by treatment with retinoic acid. Furthermore, this treatment also alleviates age-related memory deficits. The omega-3 polyunsaturated fatty acids eicosapentaenoic acid and docosahexaenoic acid have neuroprotective effects in the aged brain, and they are endogenous ligands of retinoid X receptors and peroxisome proliferator-activated receptors. We investigated whether dietary supplementation with eicosapentaenoic acid and docosahexaenoic acid reverses the age-related decline in protein levels of retinoic acid receptors, retinoid X receptors and peroxisome proliferator-activated receptors in rat forebrain.

The study compared adult and old (3-4 and 24-26 month) rats, and the latter were fed a standard diet or a diet supplemented for 12 weeks with eicosapentaenoic acid and docosahexaenoic acid at 270 mg/kg/day (eicosapentaenoic acid:docosahexaenoic acid ratio of 1.5:1). With ageing significant decreases in the protein levels of retinoic acid receptor- α (18%), retinoid X receptor- α (36%), retinoid X receptor- β (50%) and peroxisome proliferator-activated receptor- γ (40%) were seen vs. adult rats, which were reversed by omega-3 polyunsaturated fatty acid supplementation. The treatment also alleviated the significant age-related decrease in neurogenesis in the hippocampus. These observations illustrate additional mechanisms which may underlie the neuroprotective effects of omega-3 polyunsaturated fatty acids in ageing.

ABSTRACTS PRESENTED AT CONFERENCES

Bone Health Of Vegans

H.J. Hinkley, I.P. Drysdale. Presented at ECCEO8 in Istanbul, April 9th –12th 2008. Osteoporosis International 19(1) 2008, P220

Introduction: Vegans have a relatively low calcium intake due to their lack of consumption of dairy products, unless they consume calcium-rich plant foods, which may result in lower bone mineral density and increased risk of osteoporosis. However, optimal acid/base balance may be a beneficial consequence of the absence of dietary meat and fish protein due to the reduction in acid load, which results in decreased mobilization of bone mineral, lowering excretion of calcium in the urine so preserving the integrity of bone despite lower calcium intakes. Therefore, it is unclear as to whether or not the bone health of vegans is better or worse than that of comparable omnivores.

Materials and methods: This pilot study assessed calcaneal Broadband Ultrasound Attenuation (BUA; McCue CubaClinical), an index of bone mineral density and structure of cancellous bone in 92 female vegans aged 20 to 45 years with body mass index (BMI) 23.1 (sd 5.1) kg/m² for comparison with 111 age-matched omnivores of mean BMI 22.0 (sd 2.7) kg/m². The hypothesis was that veganism was not detrimental to bone health as assessed by calcaneal BUA. Data were analysed by multiple linear regression analysis.

Results: Despite the slightly lower mean BUA of the vegans, no significant difference was observed in BUA between vegans and omnivores [78.6 (sd 16.8) vs 81.9 (sd 16.8) db/MHz]. However, these preliminary findings were confounded by large inter-individual variability in both BUA and weight (weight was previously observed by the authors to influence BUA), and weight was also observed to be slightly higher (non-significant) in the vegans (63.0 (sd 14.0) vs 60.1 (sd 8.0) kg]. The mutually exclusive variables of vegan and non-vegan were entered stepwise with weight, height and age into a multiple regression model. The vegan category was found to be an independent significant predictor of BUA along with weight, but not height or age.

Conclusion: The hypothesis that the vegan diet does not adversely affect bone health is supported in part, although slightly confounded, by the results of this cross-sectional study, possibly due to the large extent of biological variability compared with BUA measurement variability, in house CV 2.3%).

Assessment of Phyto-oestrogen Intake in Vegans Using a Newly Developed Food Frequency Questionnaire.

M. Ritchie^{1,2}, S. Ramnarine³, V. Wong⁴, R. Breach², C. Arbuthnott², J. Smith⁵ and H. Hinkley⁶ ¹Napier University, Edinburgh, Scotland, ²Arbroath High School, Angus, Scotland, ⁴Edinburgh University, Edinburgh, Scotland, ⁵Aberdeen University, Aberdeen, Scotland, ⁵Dundee University, Dundee, Scotland, ⁶British College of Osteopathic Medicine, London, England.

Presented at Soy Health 5th International Conference 2008, Ghent, Belgium.

Background: **The impact of diet on risk of disease has been well documented¹. In addition, the role of dietary phytochemicals such as phyto-oestrogens² has been recognised as an important factor in disease prevention. In order to carry out an**

accurate assessment of dietary intake of phyto-oestrogens in Western populations it is necessary to consider sources of the most common phyto-oestrogens, use validated databases where possible³ and involve appropriate dietary assessment tools.

Aims: The aim of this study was to assess phyto-oestrogen intake in a vegan population using a newly developed food frequency questionnaire (FFQ) designed specifically for vegans* and adapted from the EPIC FFQ. In addition to assessing isoflavone (total genistein (G) plus daidzein (D)) intake per day, the FFQ also enabled daily intake of other major sources of phyto-oestrogens, namely flaxseed (lignans) and alfalfa (coumestrol), to be identified. Beer consumption (prenylated flavones) and wine consumption (lignans) were also noted.

Methods: 24 healthy vegan women, age range 20 to 45 years, completed the FFQ. Data involving portion sizes and frequency of consumption were converted into a weight of each food consumed per day using the Food Standards Agency 'Food Portion Sizes'⁴.

Each food was assigned the appropriate Food Code using McCance and Widdowson food codes in 'The Composition of Foods'⁵. FFQ were analysed for total nutrient and total isoflavone (G+D) content using 'Microdiet and the validated phyto-oestrogen database'³.

Results:

	Average intake per day				
	Total isoflavones G+D $\mu\text{g/d}$	Flaxseed g/d	Alfalfa g/d	Beer mg/d	Wine mg/d
Mean	33.4	7.3	5.4	26.7	20.9
(SE)	(5.2)	(1.4)	(1.8)	(10.2)	(6.8)
Median	26.3	5.5	2.5	0	0
Range	3 - 100	1 - 20	0 - 40	0 - 140	0 - 100

Conclusion: The newly developed FFQ enables phyto-oestrogen intake of the most common dietary phyto-oestrogens to be assessed in a vegan population.

* developed by H. Hinkley

¹ Cummings JH, Bingham SA. (1998). *British Medical Journal*. **317**,1636 - 1640.

² Surh Y. (2003). *Nature Reviews*. **3**, 768-780.

³ Ritchie MR, Cummings JH, Morton MS, Michael Steel C, Bolton-Smith C, Riches AC. (2006) *British Journal of Nutrition*. **95**(1),204-13

⁴ Food Portion Sizes 3rd Edition 2002 Food Standards Agency, Blackwell

⁵ McCance and Widdowson's The Composition of Foods, 5th Edition, published by The Royal Society of Chemistry food codes 5 - 1 to 5 - 1188.

Is Dietary Supplementation Implicated in Individuals Consuming a Vegan diet?

M. Ritchie^{1,2}, V. Wong³, S. Ramnarine⁴ R. Breach², C. Arbutnott², J. Smith⁵ and H. Hinkley⁶ ¹Napier University, Edinburgh, Scotland, ²Arbroath high school, Angus, Scotland, England, ³Aberdeen University, Aberdeen, Scotland, ⁴edinburgh university, Edinburgh, scotland, ⁵Dundee University, Dundee, Scotland, ⁶British College of Osteopathic Medicine, London, England

Presented at Soy Health 5th International Conference 2008, Ghent, Belgium.

Background Within the last decade there has been a dramatic increase in the sale and use of food supplements by Western populations and within the UK¹. This has led to concerns about over supplementation in some populations and whether there is a need for supplementation in others. Vegetarian and Vegan populations tend to have higher intakes of plant based foods. Recent attention has focussed on the potential increased risk of cardiovascular disease in those consuming vegetarian diets² due to low intakes of vitamin B12. The dietary reference value of B12 intake in adults is 1.5 µg/d³. Low B12 intake is associated with increased concentrations of total serum homocysteine, a marker of increased risk of cardiovascular disease.

Aims The aim of this study was to compare the average daily intake of vitamin B12 in a group of omnivores and vegans in order to establish baseline B12 intakes in each group and to identify the potential need for B12 supplementation in either group.

Methods 20 healthy omnivores (age range 20-60 years, 15 females, 5 males) completed a food frequency questionnaire (FFQ), developed and validated by the Scottish Collaborative Group. 24 healthy vegans (age range 20-45 years, all females) completed a FFQ (adapted from the EPIC FFQ) specifically designed for vegans*. FFQ were analysed using the 'Microdiet' dietary analysis programme. Daily nutrient intakes were calculated.

Results

Vitamin B12	Vegans	Omnivores
Mean intake µg/d	0.45	1.38
SE	0.08	0.26
Median	0.39	0.80
Range	0.07-1.58	0.6-3.4
Two tailed test	p<0.01 one tailed; p<0.01 two tailed	

This pilot study using a newly developed FFQ for vegans demonstrates the mean B12 intake in the vegan group is statistically different to the mean B12 intake in the omnivores. Further research is required in order to establish whether B12 supplementation should be considered in vegan populations.

¹Craig W.J. (1999) *American Journal of Clinical Nutrition* **70**, 491-9S

² Karabudak E, Kiziltan G, Cigerim N (2008). *Journal of Human Nutrition and Dietetics* **21**(1),13-22

³ Dietary Reference Values of Food Energy and Nutrients for the United Kingdom (Report on Health & Social Subjects) (2007) Dept of Health, TSO

* developed by H. Hinkley

Effects of dietary supplementation with omega-3 polyunsaturated fatty acids on COX-2 immunoreactivity in rat brain

Osman C, Dyall S.C., Michael G.J. & Michael-Titus A.T.

Presented 8th Biennial International Scientific Meeting of ISSFAL, Kansas City, USA May 16-23rd2008

Background: Cyclooxygenase 2 (COX-2) is the rate-limiting step in the production of prostaglandins, and in the central nervous system (CNS) it is also involved in membrane excitability and plasticity. EPA and DHA inhibit COX-2 activity, but their effects on expression are somewhat equivocal.

Objective: The aim of this study was to examine the effects of dietary supplementation with omega-3 fatty acids on COX-2 immunoreactivity (ir) in the CNS, and to compare the effects of EPA and DHA.

Procedures Adult (2 months; 220-280 g) male Sprague Dawley rats received either a standard diet or a DHA- or EPA-enriched diet (400 mg/kg/day over 2 months; n=5). (DHA & EPA, Croda Healthcare, UK) For immunohistochemistry animals were deeply anaesthetised and perfused. A parallel series of animals were killed by CO₂ inhalation and the livers removed for lipid analysis using gas chromatography with mass spectrometry. Sections from the fixed brains were processed for COX-2 immunohistochemistry (1:2000, Cayman Chemical). CNS areas analysed were the prelimbic cortex, and the CA1, CA3 and dentate gyrus, in the hippocampus. Semi-quantitative analyses were carried out with Scion Image software (NIH). Statistical analysis used one-way ANOVA followed by post-hoc analysis.

Results: Lipid analysis showed that both treated groups had significant increases in liver EPA and DHA and a significant decrease in AA ($p < 0.05$ vs. controls). In the prefrontal cortex, treatment led to a reduction in COX-2 ir ($p < 0.05$ vs. controls). In the dentate gyrus, both treatment groups had over 20% reduction in COX-2 ir ($p < 0.05$ vs. controls). Interestingly, within CA1 COX-2 ir was unaffected by DHA treatment, but was slightly increased by 6% following EPA treatment ($p < 0.05$ vs. controls).

Conclusions Treatment with omega-3 PUFA can regulate COX-2 expression in rat brain. Effects vary between areas and between EPA and DHA, highlighting subtle differences between the CNS effects of these two omega-3 fatty acids.

British School of Osteopathy

**Research &
Scholarship
Report
2007/2008**



The British School of Osteopathy

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Report From Vice Principal (Research and Quality)

Welcome to the 2007–2008 report from the Research Centre at the British School of Osteopathy (BSO). It has been an exceptionally busy year in terms of research activity and planning for the future. The BSO has revised its research strategy and is making good progress with its scholarship strategy. The centre supports the BSO objectives and has several key aims:

- to establish and maintain a recognisable reputation for high quality research at both a national and international level
- to contribute to the body of osteopathic knowledge
- to promote evidence-informed care
- to support high quality education within the BSO
- to contribute to the wider academic research and healthcare communities.

Members of faculty have contributed to publications in peer-reviewed journals and successfully presented work at osteopathic research conferences as well as at general medical conferences nationally and internationally. An increasing number of faculty now review for journals and contribute to editorial boards. One member of the research team has been appointed as Editor for UK and Europe for the International Journal of Osteopathic Research. A previously in-house publication has been taken on by the journal as a regular section. This maturation of The Research and Treatment Bulletin is an important milestone and represents increased opportunities for faculty and others to seek publication. The BSO has also had a member of faculty appointed to a National Institute of Clinical Health and Excellence guideline development group for back pain.

A focus of the year has been the organisation and hosting of a day conference “Osteopathic learning and practice – a global future” as part of

the Advancing Osteopathy 2008 event at the Queen Elizabeth Conference II Centre in London, February 1-3, 2008. The conference was hosted in partnership with the International Osteopathic Alliance and attracted submissions of work from around the world. Delegates from over 20 countries attended and the BSO presented numerous pieces of research and scholarship throughout the event.

The "Chiropractic, Osteopathy and Physiotherapy: Moving forward through research and practice" conference has again raised its profile. This year it was hosted by the Anglo-European College of Chiropractic in Bournemouth. We made a large contribution to the conference with eight of the 32 presentations coming from BSO graduates alongside those staff members who were involved in organising the conference. We were delighted that one of our new graduates was awarded best presentation for one of the day streams.

We have continued to deliver postgraduate teaching and supervision as well as contributing to the development of new research-focused awards. Another member of the team has successfully completed their Doctoral studies this year and other members of faculty are en route to complete studies at a similar level.

Ongoing projects include a Research Informed Teaching award from the University of Bedfordshire entitled "Work-Related Attitudes and Behaviour in Faculty Clinicians Treating Back Pain: Narrowing the Knowledge Gap between Evidence and Teaching". We are completing work assessing students' experience of clinical learning, auditing our faculty's scholarship activities and have completed surveys of a range of stakeholders to inform curriculum development.

The BSO is committed to using research and scholarship activities to underpin the learning opportunities we offer our students as well as generating new knowledge for the profession and other interested parties. We anticipate our activities and capacity growing year on year.

I would like to take this opportunity to thank individual members of faculty who contributed to the work described in this report. Finally I am grateful to the wider faculty and student body at the BSO for contributing to the development of an institution-wide ethos that values scholarship and research.



Vice Principal (Research and Quality)
Tuesday, 11 November 2008

Core Research Staff

Paul D Blanchard, DO, PGDip,

Senior Clinical Tutor; Research Fellow; Director - Chapman Clinic

Kevin Brownhill, BSc (Ost)

Lecturer, statistics, Research Fellow

David Evans, PhD, BSc (Hons) Ost

Honorary Research Fellow

Roberta Herrick, BSc (Hons), MSc Psychological Research Methods

Associate Researcher

Sam Keeping, BSc (Hons)

Research Administrator

Tamar Pincus BSc (Hons), MSc, MPhil, PhD

Associate Professor

Amanda Samson, Dip Yoga, B.Ed, PhD

Associate Researcher

Stephen Tyreman DO, MA, PhD

Professor of Osteopathy and Philosophy,
Dean of Osteopathic Education Development

Steven Vogel, DO

Vice Principal (Research and Quality)

Joanne Zamani BSc (Hons), MSc, PgCert, PhD

Area Study Manager Critical Analysis and Enquiry Unit
Senior Research Fellow

Scholarship

The BSO continues to support staff development in order to maintain high quality education, but also to develop our research and scholarship capacity. Twelve staff have completed postgraduate studies over the last year. We are supporting thirty-two staff with further study at Masters or Doctoral levels. In addition, we have provided six members of staff with critical appraisal skills training.

The development and validation of our M.Ost integrated masters degree has enabled the revision of course material with a greater emphasis on sourcing current scientific evidence to underpin the curriculum. We have developed a working group to integrate library services more closely with research and

teaching. This led to new resources to support literature searching and acquisition of full text articles. Regular journal club meetings have begun and this process offers another forum for students and staff to appraise and discuss developments in the field in a supportive and collaborative environment.

The BSO has successfully published an in-house journal, the Osteopathic Research and Treatment Bulletin (ORTB), since the beginning of 2001. Following negotiations in 2007 with the leading journal in the field of osteopathy this initiative evolved into a subsection of The International Journal of Osteopathic Medicine (IJOM) and is now published as the Research and Treatment Bulletin (RTB). This joint venture sees the BSO acting as subsection coordinator, with the publishing now handled by Elsevier - the world's leading publisher of science and health information. IJOM is distributed worldwide to registered osteopaths and other health care professionals. The RTB subsection has been incorporated into IJOM throughout 2008 with an expanding pool of contributors from osteopathic educational institutions as well as private practitioners internationally.

Although the RTB now reaches a far wider audience, it remains an integral part of the research and scholarship strategy at the BSO. As a review of recent publications and conference reports with relevance to the field of osteopathy, it keeps staff informed and up-to-date. Encouraging academic staff to review papers and write reports on meetings also provides opportunities for the development of key skills in critical reading and writing. An expanded edition, to run alongside the IJOM supplement, is scheduled for in-house publication in 2009. In addition to the IJOM materials this will give additional space and scope for a larger number of articles generated by the BSO faculty. It will also contain a directory of continuing professional development (CPD) activities and relevant upcoming meetings. The longer-term vision is to use RTB as a vehicle for the targeted dissemination of peer-reviewed published papers to the BSO faculty in their self-declared areas of interest. Critical reading and review for RTB provides continuing professional development opportunities for staff. These elements contribute to the BSO's aim to see our research ethos evolve and raise standards of scholarship throughout the institution.

The range of subjects covered during the past year has been diverse and included issues pertinent to education in manual therapy, psychosocial aspects of clinical practice, diagnostic triage, the benefits and risks of manual therapies as well as reviews of clinical trials and outcomes research. Further development of this innovative resource is anticipated over the coming years.

Future initiatives to develop scholarly activities include staff development in the following areas:

- Literature searching
- Research methods and statistics
- Further development of the Research, Scholarship and Teaching section of our Virtual Learning Environment (VLE).

Academic and research links with other organisations

British School of Osteopathy leads educational conference

The BSO in partnership with the Osteopathic International Alliance (OIA) was delighted to welcome 310 delegates from over 20 different countries at the "Osteopathic learning and practice – a global future" international conference on Sunday 3rd February 2008. The conference was held at the Queen Elizabeth II conference centre in London and brought together osteopaths, educators and health professionals to advance osteopathic education and practice.

The conference was held as part of a celebration of osteopathic practice – "Advancing Osteopathy 2008" hosted by the General Osteopathic Council (GOsC) to coincide with the tenth anniversary of statutory recognition of osteopathy in the UK. It allowed attendees to share examples of good and developing practice; look at different educational models within their frameworks and take away useful ideas and information in order to contribute to keeping quality foremost as osteopathy moves towards a globalised community.

The keynote address was given by Professor Trudie Roberts, Head of the School of Medicine and Director of the Medical Education Unit at the University of Leeds, and Secretary of State Appointee for Education on the GOsC. Professor Roberts spoke on the importance of professionalism. She argued that it was still a core value for health service providers, and one which needed to be taught formally.

She outlined how most complaints against doctors are not related to competence but to conduct, and argued for the need to assess students' attitudes frequently throughout a course, beginning early and including summative assessment by numerous assessors using multiple methods in different settings.

This was followed by an international line-up of leading academics and practitioners from the world of osteopathy contributing to 32 presentations, including three symposia and a plenary session, all of which addressed strategic issues and reflected global advances in osteopathic education and practice. Topics covered ranged from educating osteopaths after their initial qualification to different national educational practice models. In-depth symposia discussed osteopathic values and philosophy; evidence-based practice, research and scholarship and the standards used in assessing osteopathic practice.

Plenary talks addressed World Health Organisation guidelines and UK subject benchmarks for osteopathy. The accreditation system for education in the United States was also presented.

Anecdotal evidence suggests that osteopathy is now being practised in 50 countries. The majority of these have no statutory regulatory framework for practice, and with programmes of osteopathic education running in more

than 20 countries, Professor Clive Standen, Board Member of the Osteopathic International Alliance and Chair of its Education Committee, used his address to state that globalization in osteopathy will happen, with the future of the profession being driven by people who will see opportunities and break into new markets. He cited international debate, collaboration, competition with integrity and the setting of inspirational horizons as the keys to a successful future.

Collaborations and partnerships

The BSO continues to develop its excellent partnership with the University of Bedfordshire. Building on existing activities to develop and validate educational programmes to a high standard, we have been able to secure important support to develop research and scholarly activities. We are exploring research opportunities to develop in partnership with colleagues at the University of Bedfordshire.

Research grant applications and successful projects have involved collaboration with several other institutions including: Royal Holloway University of London, Queen Mary's Barts and the London; University of London, University of Warwick, Keele University and Victoria University, Australia.

Current Research

The internally-funded recruitment and admissions audit project is now completed and the results have been presented at conferences.

We gained a small Research Informed Teaching grant of £1,500 funded by the University of Bedfordshire. The study was aimed at identifying scholarly activity within the BSO clinic and academic faculty. A questionnaire was developed by the research department that identified interest and activity amongst staff. The work will inform curriculum and strategic development.

A further Research Informed Teaching grant of £10,000 has been granted to the research team to look at 'Work-Related Attitudes and Behaviour in Faculty Clinicians Treating Back Pain: Narrowing the Knowledge Gap between Evidence and Teaching.' The study will be completed in 2009. The funding supports staff in expanding their research capabilities and outputs within their specialist subject area and encourages them to consider how their research impacts on the curriculum and the learning experience of students. Students and staff at the BSO will be actively engaged in the research process and journal clubs have been set up to discuss literature relevant to the study. A dedicated area of the BSO's VLE has been established. This is accessible to students and staff and offers resources relating to the project as well as to wider issues pertaining to research, scholarship and teaching. Results of the study will be submitted for publication as well as disseminated within the BSO and on our VLE.

We were also successful with one of three applications to the NCOR call for research concerning adverse events. £140,375 has been awarded, subject to

conditions, to fund: "Investigating osteopaths' attitudes to managing and assessing risk in clinical settings and patients. Experiences and responses to osteopathic treatment." The study is being developed and will be conducted over 2008 - 2010. The overall purpose is to provide a coherent description of UK osteopaths' risk assessment and risk management; to document reported adverse events and treatment reactions in patients; to deliver a model of practitioners' and patients' perceptions and beliefs about adverse events and treatment reactions. In addition the short-term follow-up of patients will enable an evaluation of the comparative risks and benefits of osteopathic treatment.

Recruitment is concluded with our the Functional Magnetic Resonance Imaging study funded by BackCare, investigating fear of movement and brain activity in people with long-term back pain. The study is led by Dr Pincus at Royal Holloway, University of London, and analysis is completed. Results have been presented at conference and phase two of the study is ongoing.

Journal Publications

Abbey, H. (2008). *'Assessing Clinical Competence in Osteopathic Education; analysis of outcomes of different assessment strategies at the British School of Osteopathy.'* International Journal of Osteopathic Medicine, 11 (4): 125-131.

Brownhill, K. (2007). *'Back pain and the homoeostatic requirements of the spinal system.'* International Journal of Osteopathic Medicine, 10 (1): 18-23.

London, S. (2008). *'The assessment of clinical practice in osteopathic education: Is there a need to define a gold standard?'* International Journal of Osteopathic Medicine 11 (4): 132-136.

Parsons, S, Breen, A, Foster, N, Letley, L, Pincus, T, Vogel, S & Underwood, M. (2007). *'Prevalence and comparative troublesomeness by age of musculoskeletal pain in different body locations.'* Family Practice 24 (4): 308-16.

Pincus, T, Santos, R et al. (2007). *'Depressed cognitions in chronic pain patients are focused on health: evidence from a sentence completion task.'* Pain 130 (1-2): 84-92.

Pincus, T, Ruso, A & Santos, R. (2008). *"Responsiveness and construct validity of the Depression, Anxiety and Positive Outlook Scale (DAPOS)"* Clinical Journal of Pain. 24 (5): 431-7.

Pincus, T, Santos, R, Breen, A, Burton, K & Underwood, M. (2007). *"A review and proposal for a core set of factors for prospective cohorts in low back pain; the MMICS Statement."* Arthritis Care & Research, Arthritis and Rheumatism 28; 59 (1): 14-24.

Tyreman, S. (2007). *'It's Illness, But Is It Mental Disorder?'* Philosophy, Psychiatry & Psychology – 14 (2): 103-106.

Tyreman, S. (2008). *'Valuing osteopathy: What are (our) professional values and how do we teach them?'* International Journal of Osteopathic Medicine 11 (3): 90-95.

Tyreman, S. (2008). *'Commentary on Is there a place for science in the definition of osteopathy?'* International Journal of Osteopathic Medicine 11 (3): 102-105.

Zamani, J, Vogel, S, Moore, A & Lucas, K. (2007). *'Analysis of exercise content in undergraduate osteopathic education - A content analysis of UK curricula.'* International Journal of Osteopathic Medicine 10 (4): 97-103.

Published journal paper reviews

Abbey, H. (2008). *'Psychosocial predictors of chronicity in low back pain'* International Journal of Osteopathic Medicine, 11 (1): 34-38.

Abbey, H. (2008). *'Who uses CAM in Canada for back pain?'* International Journal of Osteopathic Medicine, 11 (3): 114-119.

Abbey, H. (2008). *'Psychosocial differences between acute and chronic low back pain patients'* International Journal of Osteopathic Medicine, 11 (3): 114-119.

Abbey, H. (2008). *'Do beliefs about back pain relate to pain experiences and contact with health professionals in Norway?'* International Journal of Osteopathic Medicine 12 (1): 1-5. (In press)

Abbey, H. (2008). *'Who gets what? A new screening tool to identify patient subgroups for back pain treatment allocation in primary care'* International Journal of Osteopathic Medicine 12 (1): 1-5. (In press)

Blanchard, P. (2008). *'Orthopaedic tests of the shoulder – are they accurate?'* International Journal of Osteopathic Medicine, 11 (2): 71-75.

Blanchard, P. (2008). *'Referred and nerve root pain arising from the low back – are they two distinct entities?'* International Journal of Osteopathic Medicine, 11 (2): 71-75.

Blanchard, P. (2008). *'Are there predictive rules for the development of adverse events following chiropractic care for patients with neck pain?'* International Journal of Osteopathic Medicine 12 (1): 1-5. (In press)

Evans, D. (2008). *'Persistent sciatica creates widespread sensitivity to further noxious stimuli'* International Journal of Osteopathic Medicine, 11 (1): 34-38.

Evans, D. (2008). 'Persistent neck pain – what hurts and where?' *International Journal of Osteopathic Medicine*, 11 (3): 114-119.

Morrison, R. (2008). '*Physiotherapy education: using simulated patients an evidence-based model*' *International Journal of Osteopathic Medicine*, 11 (3): 114-119.

Parry, C. (2008). '*The role of red flags in musculoskeletal pain presentations*' *International Journal of Osteopathic Medicine*, 11 (1): 34-38.

Parry, C. (2008). '*Night pain in back pain triage: what is its significance?*' *International Journal of Osteopathic Medicine*, 11 (1): 34-38.

Pincus, T. (2008). '*Pain, ethnicity, race and culture: more research needed*' *International Journal of Osteopathic Medicine* 12 (1): 1-5. (In press)

Tyreman, S. (2008). '*Influence of a postgraduate clinical master's qualification in manual therapy on the careers of physiotherapists in the United Kingdom*' *International Journal of Osteopathic Medicine*, 11 (1): 34-38.

Vogel, S. (2008). '*Adverse events round up*' *International Journal of Osteopathic Medicine*, 11 (2): 71-75.

Zamani, J. (2008). '*What influences physiotherapists to undertake Masters Level Study?*' *International Journal of Osteopathic Medicine* 12 (1): 1-5. (In press)

Conference presentations

Abbey, H & Hunt, C. (2008). '*Assessing clinical competence in osteopathic education: Analysis of outcomes of different assessment strategies at the British School of Osteopathy.*'

Symposium Presentation, Osteopathic learning and practice – a global future, Advancing Osteopathy Conference, London, February 2008.

Brownhill, K. (2008). '***Idiopathic back pain and spinal motion***' **Interdisciplinary medical imaging group, St Thomas' Hospital, London.**

Evans, D, Foster, N, Vogel, S, Breen, A, Pincus, T, & Underwood, M. (2007). '*Can practitioners' behaviour towards back pain be changed? A randomised controlled trial with physiotherapists, osteopaths and chiropractors.*'

Platform presentation, World Physical Therapy, 15th International Congress, Vancouver, Canada, June 2007.

Gosling, C, Moran, R. & Vogel, S. (2008). '*Attitudes towards research in Australian and New Zealand osteopaths.*'

Abstract published: International Journal of Osteopathic Medicine 11 (4): 154-155. Platform presentation at ICAOR 7, Bradenton, FL, USA, September 2008

London, S. (2008). *'The assessment of clinical practice in osteopathic education: Is there a need to define a gold standard?'*

Symposium Presentation, Osteopathic learning and practice – a global future, Advancing Osteopathy Conference, London, February 2008.

Nunn, N, Zamani, J, Korth, S & Wolff, M. (2008). *'Development and implementation of a Masters level qualification in Paediatric Osteopathy.'*

Platform Presentation, Osteopathic learning and practice – a global future, Advancing Osteopathy Conference, London, February 2008.

Pincus, T. (2008). *'Measuring the beliefs of clinicians'*

Platform presentation, British Pain Society Annual Meeting, Liverpool, April 2008.

Podmore, W. (2008). *'European bioethics in a global context'*

Platform Presentation, 22nd European Conference on Philosophy of Medicine and Health Care, Tartu, Estonia, August 2008

Potter, S, Zamani, J & Vogel, S. (2008). *'Variability in clinical teaching at the British School of Osteopathy – a focus group study of staff and students.'*

Platform Presentation, Osteopathic learning and practice – a global future, Advancing Osteopathy Conference, London, February 2008.

Potter, S, Zamani, J & Tyreman, S. (2008). *'Developing an M_{OST} degree at the British School of Osteopathy.'*

Platform Presentation, Osteopathic learning and practice – a global future, Advancing Osteopathy Conference, London, February 2008.

Tyreman, S. (2007). *'What did Philosophers Ever Do for Us?'*

Inaugural Professorial Lecture, BSO/University of Bedfordshire October 2007.

Tyreman, S. (2008). *'Valuing osteopathy: What are (our) professional values and how do we teach them?'*

Symposium Presentation, Osteopathic learning and practice – a global future, Advancing Osteopathy Conference, February 2008.

Tyreman, S. (2008). *'Philosophy & Osteopathy'*

Presentation to faculty of West Virginia School of Osteopathic Medicine, February 2008.

Tyreman, S. (2008). *'Development of a professional doctorate in osteopathy'*

Platform Presentation, Osteopathic learning and practice – a global future, Advancing Osteopathy Conference, London, February 2008.

Tyreman, S. (2008). *'The Happy Genius of my Household: Home as the place where I act out my being.'*

Symposium presentation, 'Health as Homelikeness', 22nd European Conference on Philosophy of Medicine and Health Care, Tartu, Estonia, August 2008

Tyreman, S. (2008). *'Osteopathic Principles: Fit for Purpose?'*

Plenary presentation, Osteopathic International Alliance, Annual Conference Chicago November 2008.

Vogel, S, & Pincus, T. (2008). *'Developing and implementing training in cognitive-behavioural approaches to the management of pain'*

Platform Presentation, Osteopathic learning and practice – a global future, Advancing Osteopathy Conference, London, February 2008.

Vogel, S. and Herrick, R. (2008). *'Predicting osteopathy students' academic and practical performance from pre-admission tests and previous education'*

Platform Presentation, Osteopathic learning and practice – a global future, Advancing Osteopathy Conference, London, February 2008.

Vogel, S. and Herrick, R. (2008). *'Service delivery characteristics of UK osteopaths - a cross sectional survey.'*

Abstract published: International Journal of Osteopathic Medicine 11 (4): 153. Platform presentation at ICAOR 7, Bradenton, FL, USA, September 2008.

Vogel, S, Pincus, T, Foster, N, Santos, R, Breen, A & Underwood, M. (2007). *'Attitudes to back pain amongst musculoskeletal practitioners: A comparison of UK professional groups and practice settings using the ABS-MP.'*

Platform presentation, World Physical Therapy, 15th International Congress, Vancouver, Canada, June 2007.

Wolff, M, & Walsh, F. (2008) *'The development of a national framework for UK osteopathic education'*

Platform Presentation, Osteopathic learning and practice – a global future, Advancing Osteopathy Conference, London, February 2008.

Zamani, J. (2008). *'Back to Exercise: Issues for Practising Osteopaths.'*

Platform Presentation, Osteopathic learning and practice – a global future, Advancing Osteopathy Conference, London, February 2008.

Zamani, J. (2008). *'Exploring Exercise Content in the UK Osteopathic Curricula – a qualitative study of osteopathic students and faculty members.'*

Platform Presentation, Osteopathic learning and practice – a global future, Advancing Osteopathy Conference, London, February 2008.

Zamani, J, Vogel, S, Moore, A & Lucas, K. (2008). *'Exploring the use of exercise therapy in UK osteopathic practice.'*

Abstract published: International Journal of Osteopathic Medicine 11 (4): 164. Platform presentation at ICAOR 7, Bradenton, FL, USA, September 2008

Keynote presentations

Pincus, T. (2008). *'The beliefs of clinicians and how these impact on patients' outcome.'*

Scandinavian Association for the Study of Pain, Turku, May 2008.

Tyreman, S. (2008) *'The Uniqueness of Osteopathic Philosophy?'* Founder's Day Event, Kirksville College of Osteopathic Medicine, Mo. USA, October 2008

Vogel, S. (2008). *'Treating the Neck: Adverse events or Normal Reactions?'* Escuela de Osteopatía de Madrid, Madrid, April 2008.

Poster presentations

Blanchard, P. (2008). *'Osteopathic community-oriented education in the setting of HIV-infection: A descriptive account.'* Osteopathic learning and practice – a global future, Advancing Osteopathy Conference, London, February 2008.

Evans, D W, Foster, N E, Vogel, S, Breen, A C, Underwood, M, Pincus, T. (2008) *'Can practitioners' beliefs and behaviour towards low back pain be changed? Results of a randomised controlled trial of a contextualised educational package'*

Poster presentation, Osteopathy - Art and Science, Advancing Osteopathy Conference, London, February 2008.

Grundy, M. & Vogel, S. (2008) *'Attitudes to prescribing rights: A qualitative focus group study with UK osteopaths'*

Poster presentation, Osteopathy - Art and Science, Advancing Osteopathy Conference, London, February 2008.

Lay, A, Wiggins, F, Potter, S. (2008). *'Innovative Course Design for Undergraduate Osteopathic Curriculum.'*

Poster presentation, Osteopathic learning and practice – a global future, Advancing Osteopathy Conference, London, February 2008.

Pincus, T, Vogel, S, Burton, A K, Field, A. (2008)

'Fear avoidance and prognosis in back pain: a systematic review and synthesis of current evidence'

Poster presentation, Osteopathy - Art and Science, Advancing Osteopathy Conference, London, February 2008.

Samson, A. (2008). *'Going Virtual – from PDP to CPD.'*

Poster Presentation, Osteopathic learning and practice – a global future, Advancing Osteopathy Conference, February 2008.

Vincent, F, & Vogel, S. (2008). *'Investigating student strategies for interpreting and applying osteopathic concepts in clinic.'*

Poster presentation, Osteopathic learning and practice – a global future, Advancing Osteopathy Conference, February 2008.

Vogel, S, Pincus, T, Santos, R, Breen, A, Foster, N, Underwood, M. (2008). *'Attitudes to Back Pain Scale in musculoskeletal practitioners (ABS - mp); The construction and validation of a new questionnaire.'*

Poster presentation, Osteopathy – Art and science, Advancing Osteopathy Conference, London, February 2008.

Waters, M. (2008). *'Professional Development Portfolios, Student Support and Individual Education Plans in Osteopathic Education: Ensuring it is not as Boring as it Sounds'*

Poster Presentation, Osteopathic learning and practice – a global future, Advancing Osteopathy Conference, London, February 2008.

Zamani, J, Vogel, S, Moore, A & Lucas, K. (2008). *'Analysis of exercise content in undergraduate osteopathic education – A content analysis of UK curricula.'*

Poster presentation, Osteopathy – Art and science, Advancing Osteopathy Conference, London, February 2008.

Editorials and other contributions

Abbey, H. External examiner for the Vienna School of Osteopathy, MSc Theses.

Brownhill, K. (2007). Comments on *'Spinal manipulation in patients with disc herniation: A critical review of risk and benefit'*.

International Journal of Osteopathic Medicine 10 (1): 29.

Brownhill, K. (2008) developed a Matlab code to calculate Intraclass correlation coefficients on Mathworks website: <http://www.mathworks.com/matlabcentral/fileexchange/21501>

Blanchard, P. Research and Treatment Bulletin, Section Coordinator, The International Journal of Osteopathic Medicine.

Browning, S. Trained assessor by the QAA for accreditation of professional courses in Osteopathy on behalf of the GOsC.

Evans, D. International Advisory Board, International Journal of Osteopathic Medicine.

Tyreman, S. External Examiner for the Canadian College of Osteopathy Toronto of final year theses and for the Anglo-European College of Chiropractic, Bournemouth of both the MSc and PgCert programmes. Also a member of the Editorial Advisory Board for Learning in Health and Social Care Blackwell.

Pincus, T. Member of the Advisory Board to the Cochrane Back Group. Member of the Editorial Board of the International Journal of Osteopathic Medicine. Also sits on the college of experts, Medical Research Council and is part of the clinical study group for the Arthritis Research Campaign.

Vogel, S. (2008). *'Due thanks, moving forward, and valuing the journey.'* International Journal of Osteopathic Medicine 11 (2): 41-42.

Vogel, S. External examiner, Vienna School of Osteopathy and Unitec: MSc theses. Member of the editorial board for the journal Chiropractic and Osteopathy. UK and European Editor of the International Journal of Osteopathic Medicine. Stakeholder representative, National Council for Osteopathic Research. Member of the Guideline Development Group for National Institute of Health and Clinical Excellence's guideline on "The acute management of patients with chronic (longer than 6 weeks) non-specific low back pain."

Walsh, F. External moderator for British College of Osteopathic Medicine FCCA exams and ISO Milan FCCA exams. Gives expert advice for the University of Wales degree validation programmes in osteopathy at IAO Ghent, ISO Milan, CEO Montreal, SKOS Gothenburg and ESO Maidstone. Also a faculty member at WSO Vienna and trained assessor by the QAA for accreditation of professional courses in Osteopathy on behalf of the GOsC.

Zamani, J. External examiner for the Vienna School of Osteopathy and Leeds Metropolitan University, MSc theses and programmes respectively. Currently reviewing for both the International Journal of Osteopathic Medicine and Manual Therapy.

Research Supervisors and Areas of Interest

Name of Supervisor	Areas of Interest
Hilary Abbey	Clinical reasoning, osteopathic concepts, psychosocial factors in manual therapy, clinical and patient management/practice issues, therapeutic relationships
Faye Andrews	Sports Injuries, back pain, rehabilitation
Greg Barker	Nutrition, general aspects of osteopathy
Paul Blanchard	Peripheral neuropathy in HIV, diabetes, neurology, clinical practice, psychosocial issues.
Stacey Bourne	Paediatrics, satisfactory outcomes for NHS patients (as audit).
Kevin Brownhill	Coordination dynamics
Simon Browning	Ergonomics, exercises for patients, core stability, computer-based learning, differential diagnosis, technique and effects on tissues (HVT/MET/ST)
Robert Burge	Whiplash, osteopathic diagnosis using structural and

	functional approaches
Laurence Butler	Assessment methods, inter-professional collaboration, legal aspects of osteopathic care
Ben Calvert-Painter	Sports injuries, taping and strapping, core stability, HVT, the manual and physiological effects of manipulation and mobilisation, stretching, rehab exercises, orthopaedics, myofascial acupuncture and trigger point
Kieran Chhabra	Sports injuries, structural osteopathy
Emma Chippendale	Pain scales (accuracy), Hip mobility + dancers, HIV, paediatrics, musicians' injuries, pain, pt management, psycho-social issues/osteopathic concepts, ergonomics in the workplace and any other experimental research
Morag Christie	Paediatrics, Cranial, osteopathy for animals
Alan Coles	Sports injuries, rehabilitation, trigger points and dry needling
Penelope Conway	Pregnancy, ethics
Simon Cooke	Relationships between body areas, philosophical principles of osteopathy and its defining characteristics.
Soran David	Clinic and the concepts area of study, communication, grounded theory and quantitative methods.
Tracy Davies	Paediatrics, geriatrics, sports science
Alison Durant	Osteopathic technique, and the mechanisms behind osteopathic techniques - soft tissue techniques in particular
Jonathan Edis	History and philosophy of osteopathy
Vanessa Finglas	Sports injuries, structural osteopathy, cranial osteopathy
Kevin Gill	Nutrition, sports science, sports injuries, rehabilitation stretches, practice and business management
Linda Goddard	Paediatrics
Helena Greenwood	Cranial, paediatrics, pre-natal and post-natal studies
Jeff Grumball	Rehabilitation, Yoga/Pilates, muscle chains
Bob Gupta	Clinical processes and delivery of care, interventions
Fiona Hendry	Sports medicine
Daryl Herbert	Osteopathic practice, minimal leverage manipulation skills, tech moves at advanced level
Jo-Anne Holmden	Chronic pain
Stephen Humphreys	Ergonomics in the workplace
Trevor Jefferies	General practice, paediatrics and pregnancy

Barbara Judge	Osteopathic practice and education
Virginia Keefe	Mothers and their babies, MS, attending research hub
Ceira Kinch	General practice, sports, psychology
Robin Lansman	Rehabilitation, muscle physiology, knee pain, runners, blood flow, sports injuries, stretching, educational, GP professional communication skills, interpersonal values
Andrew Lay	Biomechanics, exercise (provision and compliance), tissue states
Chris Leighton	Structural osteopathy, visceral osteopathy
Simeon London	Clinical teaching and education, quality control
Vinod Mahtani	Wii-related injuries, osteopathic evidence
Rob McCoy	Geriatrics
Walter McKone	Clinical methods, psychology, manipulative methods (palpation), philosophy, trauma
Neil Mellerick	General osteopathic structural practice, ethics and confidentiality, differential diagnosis
Rebecca Mercer	Sports, general practice, obstetrics
Rebecca Morrison	Assessment methods, educational practice
Rebecca Orchard	Sports injuries
Will Podmore	Ethical considerations, philosophy and history of osteopathy
David Propert	Paediatrics, clinical nutrition, sports/exercise physiology
Andrea Rippe	Paediatrics, osteopathic education, placebo effects
Helen Robinson	Dry needling, innovative use of quantitative analysis, techniques.
Neil Rowe	osteopathic practice, sports injuries, cranial osteopathy
Nick Salway	Sports injuries
Amanda Samson	Flexible learning, e-learning, effect of Yoga and implication for mindfulness
Ida Scheibelhoffer	Ergonomics, Yoga and Pilates, RSI, posture
Ian Schofield	Sports injuries, cranial osteopathy, accidents and trauma
Paddy Searle-Barnes	Osteopathic evaluation and the diagnostic process; respiratory, CVS, and endocrine problems.
Karen Shiels	Osteopathic education, clinical reasoning
Richard Skudder	Headache, TMJ dysfunction, clinical skills and muscle retraining
Kieren Spencer	IVM, paediatrics, indirect technique
Michael Stewart	Attitudinal studies, qualitative analysis, nutrition and heart disease
Christopher Thomas	HIV/Aids

Teri Turner	Audit, sport injuries, GP/NHS attitudes to osteopathy
Stephen Tyreman	Philosophy of medicine, healthcare and osteopathy; osteopathic education.
Frank Vincent	Paediatrics, rehabilitation, osteopathic education
Steve Vogel	Guidelines and evidence-based practice, psychosocial factors in back pain risk and identification, measurement of depression/anxiety in patients with persisting pain, musculoskeletal practitioners' attitudes and belief about back pain. Work-related issues, adverse event, prescribing and clinical outcomes and audit
Fiona Walsh	Sports injuries, osteopathic integration into NHS
Mark Waters	Student development plans, use of IT in education
Jane Watt	Sports injuries
Neil Wayman	Geriatrics, sports, psychology of pain
Francesca Wiggins	Anatomy, application of osteopathy, interaction with patients, different techniques to physiology
Heath Williams	Sports injuries, exercises, geriatrics
Nicholas Woodhead	Cranial osteopathy
Melanie Wright	Biochemistry and metabolism, child and adult obesity, patterns of human growth, statistical analysis
Joanne Zamani	Exercise, curriculum review/development

Undergraduate Dissertations

Adams, Ben	Supervisor: None
How Relevant are Academic Lectures Looking at Asthma to the Clinical Environment at the BSO? A Focus Group Study	

Ahmed, Asif	Supervisor: Will Podmore
A qualitative semi-structured interview study to investigate the role of osteopathy in treating patients who present with influenza as a primary or secondary presentation	

Albert, Nicholas	Supervisor: Steve Sandler
Does a correlation between gastro-oesophageal reflux (GOR) and a vertebral lesion at the level of C2 and T2 left nerve roots exist in pregnant women?	

Amarteifio, Vida	Supervisor: Paul Blanchard
A comparative study between Osteopaths and Physiotherapists in their diagnosis and management of Post Mastectomy Lymphoedema	

Anchugova, Ludmilla	Supervisor: Simon Cooke
Osteopathic Treatment of IBS: A comparative study between European and British Osteopaths	

Arbuckle, Gilly	Supervisor: Kevin Brownhill
A cross-sectional study into relationship between the fatigue time of transversus abdominis and walking habits	
Bailey, Claire	Supervisor: Andrew Lay
Osteopaths' Use of Euphemisms and their Impact on Patients' Beliefs About Health	
Barlow, Sophia	Supervisor: Steven Vogel
GPs' protocol and motivation for referring simple low back pain patients to private and NHS manual therapists. A cross-sectional survey.	
Baulkwill, Cecylia	Supervisor: Paddy Searle-Barnes
A review of interventions in managing soft tissue neck injuries in fast jet pilots	
Baysham, Juliette	Supervisor: Robin Lansman
Yoga's Role in Pain Management: A Narrative Review	
Beckett, Sarah	Supervisor: Trevor Jeffries
Survey of the Practices and Attitudes of BSO Students with Regards to Cleaning of Clinical Diagnostic Equipment	
Biggar, Alison	Supervisor: Andrew Lay
A Narrative Review on the effectiveness of Soft Collar use in the treatment of Whiplash Associate Disorder (WAD)	
Birdi, Manmohan	Supervisor: Chris Leighton
Osteopaths' opinions on the treatment for Acute Low Back Pain (ALBP)	
Black, Jacqui	Supervisor: Matthew Harris
A study into whether there are relationships between ankle range of movement, hallux valgus and musculoskeletal low back pain	
Blades, Joanne	Supervisor: Paddy Searle-Barnes
A study of the possible relationship between breathing pattern disorders and low back pain.	
Bodger, Stephen	Supervisor: Hilary Abbey
A Questionnaire Survey Investigating the Role Osteopaths Play in the Treatment of Depression	
Bonar, Kirsty	Supervisor: Matthew Harris
A survey of osteopaths' recommendations of exercise therapy for simple low back pain	
Branch, Christopher	Supervisor: Robin Lansman
A Systematic Review into the Effects of Cervical Spine Manipulation	

Britchford, Natalie	Supervisor: Joanne Zamani
The Effect of Exercise Interventions on Bone Density in Children - A Systematic Review	
Bruce, Emma	Supervisor: Chris Thomas
Does revealing underwear affect osteopathic examination/treatment? Would the introduction of barrier underwear be beneficial to osteopathic practice?	
Budd, Richard	Supervisor: Andrew Lay
An investigation to identify whether there is a relationship between B.Ost student's palpatory literacy and their ability to recreate joint position	
Buttar, Sunvir	Supervisor: Soran David
Case History Evaluations: Measuring Patient Satisfaction of Osteopath Communications.	
Capp, Vanessa	Supervisor: Michael Stewart
An Exploration into Osteopathic Perceptions of the Perceived Efficacy of Glucosamine and Chondroitin in the Treatment of Osteoarthritis	
Carter, David	Supervisor: Trevor Jefferies
Osteopathic Treatment of Childhood Asthma	
Clarke, Adrian	Supervisor: Joanne Zamani
A Qualitative Investigation of Osteopaths' Views of the GOsC Mandatory Continuing Professional Development Scheme	
Clee, Angela	Supervisor: Paddy Searle-Barnes
Study to investigate whether combined muscle energy technique to piriformis is more effective at increasing internal hip rotation range-of-motion than MET or inhibition alone	
Coles, Jennifer	Supervisor: Soran David
Opinions of osteopaths regarding placebo response.	
Cook, Paula	Supervisor: Paddy Searle-Barnes
A Qualitative study about the implications for Osteopaths and their practice of working in Rural England	
Cooper, Julia	Supervisor: Hilary Abbey
A systematic review of the physiological effects of soft tissue massage	
Cousins, Kirstie	Supervisor: Joanne Zamani
Literature review into the effects of thoracic mechanics on voice production and potential osteopathic interventions.	
Craddock, Benjamin	Supervisor: Jonathan Edis

A Survey to Establish Whether Osteopaths' Attitudes to Assessment and Treatment of Cervical Spine are Changing

Cross, Rupert	Supervisor: Simon Browning
An investigation into the effects of muscle energy technique applied to the flexor muscles of the forearms to produce an increase in grip strength and flexibility at the wrist on extension	

Dennis, Jessica	Supervisor: Trevor Jefferies
Investigation into the Effect of Voluntary Teeth Clenching on Power-Grip of the Non-Dominant Hand	

Dolan, Sarah	Supervisor: Clarissa Parry
Do Osteopathic students consider smoking status when evaluating patient prognosis?	

Dyke, Paul	Supervisor: Jonathan Edis
A survey of student and qualified osteopaths to assess how motives and influences for choosing an osteopathic career are changing.	

Earle, Alexander	Supervisor: Michael Stewart
The specificity of the Hoffman-Tinel Sign within a Diabetic population	

Fennell, Samantha	Supervisor: Robert McCoy
Investigating how osteopaths assess and treat fall risk in older patients	

Foxon, Jon	Supervisor: Roberta Herrick
Attitudes and practice of informed consent within the osteopathic profession	

Foxter, Jarvia	Supervisor: Steve Sandler
An exploration of osteopathic perceptions and management of symphysis pubis dysfunction (SPD) in pregnancy compared to current research and standard care.	

France, Shianett	Supervisor: Kevin Brownhill
Do patients who are clinically anxious want music to be played in the British School of Osteopathy reception?	

Frickel, Nichola	Supervisor: Ruth Levitan
A Qualitative Study into the Challenges Facing Osteopathy in South Africa	

Gowland, Jackie	Supervisor: Joanne Zamani
A feasibility study into the effectiveness of a physical activity website to increase patient adherence to chronic simple low back pain management protocols	

Harris, Katherine	Supervisor: Penny Conway
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An exploration into the attitudes of GPs in Wales towards osteopathy	
Harvey, Elizabeth	Supervisor: Paddy Searle-Barnes
A comparison of active and passive rib stretches on Peak Expiratory Flow rate	
Haynes, David	Supervisor: Matthew Harris
The usefulness of relaxation techniques for the relief of chronic pain, a pilot study.	
Headley, Simon	Supervisor: Helen Robinson
How do manual therapists manage their patients with asthma?	
Henaghan, Chloe	Supervisor: Steve Sandler
Interventions for Pregnancy-related Pelvic Girdle Pain: How well are the guidelines supported by the evidence?	
Iram, Samera	Supervisor: Matthew Harris
Physical inactivity prior to onset of low back pain (LBP) and severity of simple low back pain in sedentary workers attending the British School of Osteopathy Clinic: are physically inactive patients affected more by LBP?	
Janakova, Zuzana	Supervisor: Lindsey Howley
The Impact of Practitioners' use of English as a Second Language on Patients' Satisfaction. An Exploratory Study	
Kavanagh, Matt	Supervisor: Andrew Lay
A Survey of Osteopathic Opinion on the Management of Patients with Gout	
Kirkham, Lucy	Supervisor: Steve Sandler
Osteopathic treatment of nulliparous women and three labour-related parameters: a retrospective observational study	
Knight, Rachel	Supervisor: Steven Vogel
The frequency and nature of short term reactions post treatment: A cross sectional survey of new patients attending the British School of Osteopathy (BSO)	
Knott, Jenny	Supervisor: Kevin Gill
An investigation into the relationship between lower extremity injuries in runners and arch index and running footwear worn	
Lasham, Oliver	Supervisor: Roberta Herrick
A qualitative study: Should osteopaths use breathing exercises for patients with fear avoidance and chronic low back pain?	
Laws, Tzaneen	Supervisor: Steve Sandler

An exploratory study into the use and teaching of Per Rectal techniques within Osteopathy	
Lee, Esther	Supervisor: Roberta Herrick
Perceived Effectiveness Gaps: GP 'wish list' for CAM in Surgery	
Lewis, Hannah	Supervisor: Michael Stewart
An experimental investigation into the relationship between adult head-on-neck posture and backpack weight.	
Lisboa, Claire	Supervisor: Hilary Abbey
A qualitative study using semi-structured interviews with osteopaths on the significance of touch when treating older people	
Litchfield, Caroline	Supervisor: Lindsey Howley
Is communication the key to osteopathy? Perceived Communication between Patients and Osteopaths relative to Patient Satisfaction	
Lockyear, Bethany	Supervisor: Hilary Abbey
Does massage therapy (MT) improve sleep quality? A Systematic Review	
Lomax, Lizzy	Supervisor: Tom Sheehan
An investigation into symptom production during thoracic outlet syndrome provocative shoulder manoeuvres in symptomatic and asymptomatic subjects	
Magnouat, Delphine	Supervisor: Roberta Herrick
A description of the profile of osteopathic practitioners in France	
Kate Williamson	Supervisor: Margaret Wolff
An investigation into the effect of government funding on full-time admissions to the B.Ost degree course at the British School of Osteopathy	
Malaczynska, Ania	Supervisor: Helen Robinson
Diagnosing depression in children - implications for osteopathy	
Mallett, Dominic	Supervisor: Emma Chippendale
Musculoskeletal manifestations associated with HIV-positive patients	
Martin, Matthew	Supervisor: Simon Browning/Will Podmore
A Comparison of the use of Lumbar Radiography at the Anglo-European College of Chiropractic (AECC) and the British School of Osteopathy (BSO)	
Moore, Lucy	Supervisor: Jonathan Edis

Seasonal Effects on Patient Consultation Rates Pain Levels and Recorded Emotional Factors	
Nelhams, Paul	Supervisor: Kevin Brownhill
The Role of Occupational Stress in the Development of Coronary Heart Disease: A Review of the Literature	
Norman, Patrick	Supervisor: Steven Vogel
Attitudes towards osteopathic prescribing: A study to examine possible links between osteopaths' attitudes on osteopathic prescribing rights and their treatment orientation	
Ormrod, Joma	Supervisor: Ceira Kinch
The Effectiveness of Orthotics in the Osteopathic Management of Plantar Fasciitis. A Systematic Review	
Panesar, Kamaldeep	Supervisor: Hilary Abbey
Repetitive Strain Injury and Carpal Tunnel Syndrome: An Osteopath's experience	
Parry, Tom	Supervisor: Simon Browning
Attitudes to back pain amongst Osteopaths: A comparison of Osteopathy and an interdisciplinary approach using the Attitudes to Back Pain Scale for Musculoskeletal Practitioners	
Patel, Serena	Supervisor: Hilary Abbey
Osteopaths' beliefs on why patients choose osteopathy at the BSO in comparison to the views of patients	
Patel, Kalla	Supervisor: Simon Browning
A study into the benefits of simple upper extremity stretching exercises in the muscular symptoms of visual display terminal (VDT) operators	
Patton, Helen	Supervisor: Roberta Herrick
A study into the coping strategies of first, second, third and fourth year Osteopathic students in relation to stress	
Pereira, Rachael	Supervisor: Hilary Abbey
A Follow-up Study to "Examination of the Scope and Quantity of Published Osteopathic Research (1999-2000) Identified Using the Search Words Osteopath, Osteopathy and Osteopathic."	
Posen, Ben	Supervisor: Will Podmore
Do osteopaths adhere to the General Osteopathic Council's (GOsC) guidelines on chaperones?	
Quaintrell, Peter	Supervisor: Michael Stewart
The Efficacy of omega fatty acid supplements for rheumatoid arthritis – a systematic review	

Rowland, Oliver	Supervisor: Paul Blanchard
Patients with HIV infection attending a hospital-based osteopathic clinic: demographics and patterns of referral	
Salisbury, Katharine	Supervisor: Steven Vogel
An Investigation into Osteopaths' Views about Returning Patients with Low Back Pain to Work and Full Functioning	
Sharman, Laura	Supervisor: Rebecca Mercer
Osteopathy, is it a pain in the thumb?	
Shooter, Jill	Supervisor: Joanne Zamani
An exploratory study of the Osteopathic Management of the patient following a median sternotomy	
Spiers, Byron	Supervisor: Trevor Jefferies
A Multiple Sclerosis (MS) sufferer's view of the perceived efficacy of complementary and alternative medicine (CAM)	
Thorogood, Julian	Supervisor: Kevin Brownhill
An Investigation into the Effects of a Supine Abdominal Breathing Exercise on Lung Function, as Measured by FVS and FEV1	
Treadaway, Elizabeth	Supervisor: Kevin Brownhill
An Investigation into the Experience of Using a Child Car Safety Seat on Low Back Pain	
Turner, Matt	Supervisor: Alison Durant
Muscle Energy Technique: A Narrative Review Investigating the Possible Mechanisms	
West, Dellus	Supervisor: Joanne Zamani
Prevalence of job stress and satisfaction amongst qualified osteopaths in the UK	
Woodgate, Keith	Supervisor: Frank Vincent
Is massage therapy effective in reducing cortisol levels in adult and adolescent recipients? A systematic review of the literature.	
Wright, Niamh	Supervisor: Frank Vincent
The Relationship between Anatomical location of Chronic pain and Depressive symptoms in patients attending the British School of Osteopathy	
Wrigley, Melanie	Supervisor: Hilary Abbey
An investigation into the use of meditation by osteopaths as a means of self care and enhancement of clinical skills	

European School of Osteopathy



European School
of Osteopathy

**Annual Research Report
2007–08**

October 2008

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1. Introduction and Message from the Principal

Research has become increasingly prominent at the ESO over the past year and I am pleased to be able to introduce this, our third, research report. Within its pages you will see recorded a number of activities and achievements, which together attest to the growing awareness of research within the school. In particular we were pleased to participate in ‘Osteopathy – art and science: Celebrating evidence-informed osteopathy in practice’ a one-day conference in February 2008 hosted by NCOR (National Council for Osteopathic Research). The ESO was proud to be associated with three poster-presentations at this event, one of which won an award.

Growth in the research infrastructure and ethos at the ESO has benefitted greatly from the deliberations of the Research Advisory Board, which draws on the extensive expertise of a number of external academics and research professionals. It falls to the Research Working Group, a small, focused and hard-working team, to implement such advice. New research-orientated initiatives have therefore been introduced, with the ultimate aim of supporting and informing teaching and practice to the benefit of our students. It is hoped that in this way, our future professionals will be adequately prepared for the changing focus in the health-care arena.

Adrian Barnes, *Principal*

2. Research culture and environment at the European School of Osteopathy

Work started in 2006 to develop a new strategic plan for research activities at the ESO. Whilst acknowledging the ESO's ethos built on tradition, it was recognised that to flourish as a teaching institution in an increasingly busy healthcare arena required a new willingness to engage in the research process. A Research Advisory Board was instituted and first met in April 2007. Subsequently, a Research Strategy Framework was devised, which outlines five main aims (below), with specific objectives, and describes the process by which these objectives might be achieved. Importantly, it places an emphasis on measuring outcome so that implementation is easy to assess.

Aims

- Establish and develop a research infrastructure at the ESO
- Increase research awareness and strengthen research ethos amongst students, faculty and staff
- Strengthen research activities and enhance research experience for faculty, students and staff
- Increase research productivity from students, faculty and staff
- Increase research funding (internal and external)

Mission Statement

To nurture and develop research awareness and activity at the ESO with a view to supporting and informing the teaching and practice of osteopathy.

3. Structure of the ESO and Core Staff

Principal of the European School of Osteopathy

Mr Adrian Barnes MSc, DO
Boxley House
Boxley
Maidstone
Kent ME14 3DZ
Tel: 01622 671558
Fax: 01622 662165
Email: adrianbarnes@eso.ac.uk

Vice Principal (Academic)

Also MSc Programme leader
Dr Paula Fletcher PhD, BSc (Hons), Grad Cert Ed FE

Vice Principal (Osteopathic)

Mr Steven Bettles BSc (Hons) Ost, BA

Associate Vice-Principal (Research): Honorary Contract

Mr Christian Fossum DO

BSc Research Projects Co-ordinator

Dr Peter Collins PhD, MBA, BSc (Hons), C Biol

Postgraduate Research Development Manager

Mrs Brenda Mullinger BSc (Hons), FRSM, HonFICR

Clinic Head

Mr Robert Thomas BSc (Hons) Ost, BA

MSc Project Supervisors

Mr Adrian Barnes MSc, DO
Mr Lance Bird MPhil
Dr Peter Collins PhD, MBA, BSc (Hons), C Biol
Dr Paula Fletcher PhD, BSc (Hons), Grad Cert Ed FE
Mr Andrew Golding MSc (Sports Science), BA
Mr Clive Hayden MSc, DO
Ms Diana Pitt MSc, DO
Mr Dévan Rajendran MSc, BSc (Hons), Dip Hyp, DO, ND, Cert Ed
Mr Nicolas Tanguy, BSc (Hons) Ost; MSc

Research Working Group Members

Dr Peter Collins BSc (Hons), PhD, MBA, C Biol

Mr Robert Froud BSc (Hons) Ost

Mrs Brenda Mullinger BSc (Hons), FRSM, HonFICR

Mr Dévan Rajendran MSc, BSc (Hons), Dip Hyp, DO, ND, Cert Ed

Mr Christian Fossum DO (external adviser)

Research Advisory Board Members

Staff and faculty: Mrs Brenda Mullinger (chair)

Mr Dévan Rajendran MSc, BSc (Hons), Dip Hyp, DO, ND, Cert Ed

Dr Paula Fletcher PhD, BSc (Hons), Grad Cert Ed FE

Mr Steven Bettles BSc (Hons) Ost, BA

External advisors:

Dr Dawn Carnes PhD, BSc (Hons) Ost, BSc (Hons) Hum Psych., DO

Dr Janine Leach PhD, QTS, BSc (Hons), DO, ND

Dr Iris Musa PhD, MPhil, FCSP, DipTP, CE

Prof Robert Douglas

4. Report from the ESO Research Working Group

Research Working Group (RWG) Members

Peter Collins, Robert Froud, Christian Fossum (external adviser)
Brenda Mullinger (secretary), Dévan Rajendran

Current and recently completed research projects

Survey into the frequency of commonly occurring adverse events

Analysis of specific data from this pilot study resulted in two poster presentations in February. A paper on the full study has been accepted for publication (autumn 2008).

Systematic review of the literature on adverse events: grant to be administered by ESO

This is one of two collaborative bids that were successful following the call for research proposals from the GOsC. Work started in Jan 08 for 1 year (led by University of London).

Analysis of reports to regulator and insurance companies concerning adverse events

Led by University of Brighton and in conjunction with University of Greenwich and COET, the ESO is a collaborator on this GOsC-funded project, which will take one year, from May 08.

NCOR Research Conference 1 Feb 08

The RWG actively supported the NCOR research conference, entitled *Osteopathy – Art and Science* which was part of the GOsC 10th Anniversary event celebrating osteopathy in the UK. Brenda Mullinger chaired one of the discussion sessions and all abstracts submitted by the RWG were accepted for poster presentations (*for details see Section 6*).

Presentation to ESO Faculty

A presentation on research activities was made by RWG members at the ESO Faculty Day in November 2007. A week-end seminar on ‘Statistics for Supervisors’ was held in September 2007.

Visiting lecturers

Invited lectures on research-based topics are regarded as important for senior students and faculty alike. Three took place over the past year:

- November 2007: Dr Tamar Pincus, *Reader in Psychology, Royal Holloway University of London*. Why cognitive-behavioural approaches are relevant to pain management by osteopaths.
- February 2008: Dr Gary Fryer, *Research Associate Professor, A T Still Research Institute, Kirksville, MO, USA*. Muscle energy technique: evidence-informed practice.
- January 2008: Robert Froud, *PhD student, Queen Mary School of Medicine and Dentistry, London*. Interpreting low back pain trials: UK BEAM – was it meaningful?

Conference participation

There were two presentations by recent ESO graduates at the Chiropractic, Osteopathy and Physiotherapy annual conference ‘*Moving forward through research and practice*’ in London, September 2007 and they were supported by members of the RWG.

On behalf of the Sutherland Cranial College, which is considering a multi-centre study in infantile colic, Brenda Mullinger presented the study proposal to the ‘*Research Strategies in Complementary and Alternative Medicine*’ conference, York, April 2008. This provided an opportunity to discuss with delegates the methodological challenges faced.

An abstract will be published in 'Complementary Therapies in Medicine'.
The RWG submitted an abstract to the International Conference for Advances in
Osteopathic Research (ICAOR 2008), to be held at Lake Erie College of Osteopathic
Medicine, Florida, in conjunction with BCOM, in September 2008.

5. Postgraduate Degree Completions 2008

MSc – University of Wales

Student Project Title

Matthieu Bach A clinical pilot study for the treatment of migraine using osteopathic treatment and osteopathic visceral techniques

Danny Williams To investigate the clinical benefits using Chapman's reflexes for the treatment of irritable bowel syndrome. (Pilot Study)

Post-graduate Diploma in Osteopathy – University of Wales

Andreas Graham

Fabien LeFebvre

Brian Walklett

Registered postgraduate students

MSc Osteopathy – University of Greenwich

There are 11 students currently registered on this course, completion expected early 2009.

MSc Osteopathy – University of Wales

There is 1 student currently registered on this course.

6. Conference Presentations and Posters

Platform presentations

4th Chiropractic, Osteopathy and Physiotherapy Annual Conference, London, September 2007

- **François Mezei**, Jon Parsons: Analysis of the possible short term effects of rib manipulation on the laterovertebral ganglia and the activity of the sympathetic nervous system.

- **Rachel Milner**, Paula Fletcher: Cervical Rotation in Tractor Drivers and its Relationship to Neck Pain and Headaches

Osteopathy – Art and Science, Celebrating evidence-informed osteopathy in practice, National Council for Osteopathic Research (NCOR) conference, London February 2008

- **Annette Pantall**, Sally Durham, David Ewins: Patterns of surface electromyographic activity recorded during the stance phase in transfemoral amputees with osseointegrated prostheses

Osteopathic Learning and Practice – Building a global future. BSO/OIA hosted conference,

London, February 2008

- **Paula Fletcher**. Clinical Competence Examination – improvement of validity and reliability

Developing Research Strategies in CAM, York, April 2008

- **Brenda Mullinger**: Proposed protocol for investigating the effect of cranial osteopathy for the relief of infantile colic: a controlled, randomised, multicentre trial

V Motor Control Conference, Sofia, Bulgaria September 2007

- **Annette Pantall**: Patterns of surface electromyographic activity recorded during the stance phase in transfemoral amputees with osseointegrated prostheses

XVII Congress of the International Society of Electrophysiology and Kinesiology, Niagara Falls, June 2008

Falls, June 2008

- **Annette Pantall**: Patterns of surface electromyographic activity recorded during the stance phase in transfemoral amputees with osseointegrated prostheses

Poster presentations (*Copies of these posters appear in Appendix 1.*)

Osteopathy – Art and Science, Celebrating evidence-informed osteopathy in practice, National Council for Osteopathic Research (NCOR) conference, London February 2008

- **Dévan Rajendran; Brenda Mullinger, Peter Collins, Robert Froud, Christian Fossum**. Monitoring self-reported adverse events in patients attending a UK teaching clinic – preliminary findings from a prospective survey (pilot study)*

(* awarded 2nd prize)

- **Brenda Mullinger, Dévan Rajendran, Peter Collins, Robert Froud, Christian Fossum**. Methodological considerations for capturing adverse events data: experience from a feasibility study in a UK school of osteopathy.

- **Dévan Rajendran**. A pilot study comparing instrumentally obtained resting muscle tonus in low back pain subjects with a control group.

Osteopathic Learning and Practice – Building a global future. BSO and OIA hosted conference, London February 2008

- **Lynne Beckley**. GOsC Clause 20, The Osteopath's Viewpoint: A survey by questionnaire.

7. Publications

Papers

Brenda Mullinger. Manuscript preparation and publication for would-be writers: an aid to disseminating osteopathic research. *International Journal of Osteopathic Medicine* 2007;10:56-64

Abstracts

Annette Pantall. Patterns of surface electromyographic activity recorded during the stance phase in transfemoral amputees with osseointegrated prostheses. *Proceedings of the V Motor Control Conference, Sofia, Bulgaria, September 2007.*

8. BSc student research theses 2007 – dissertation titles

- A muscle energy technique applied to psoas major and the hamstring muscle and its effect on forced excursion.
- An investigation into an optical means of assessing the primary respiratory mechanism
- Muscle energy technique and static stretching applied to the scalene muscles and their effect on breathing.
- The psycho-neuro-endocrine-immune network: the relationship between the psyche, the nervous system, the endocrine and immune systems and how osteopathy can access it.
- Does regular participation in football have an effect on the anterior cruciate ligament laxity?
- The efficacy of manual therapy and breathing exercises used in the management of asthma – A literature review
- The floating ribs & the effects they have on breathing.
- The effect of two MET techniques of the quadratus lumborum on dynamic lung function.
- Pilates, the osteopathic viewpoint. A survey by questionnaire.
- The effect of stretching techniques compared to a placebo and the influence of patient perception upon hamstring length.
- The effects of soft tissue technique on tissue compliance of the lumbar erector spinae using a myotonometer.
- The effect of a T2 lift on service velocity in male tennis player.
- To compare the effectiveness of 2 (passive/active) starch techniques applied to the hamstring muscle group.
- A survey on the ESO student's perception of observation.
- Are retired people aware of the benefits of osteopathic treatment for symptoms of degenerative conditions?
- Pathophysiology, diagnosis and management of spinal nerve root involvement in radiculopathy and radicular pain: an osteopathic perspective
- A literature review of the role of multifidus in low back (dys)function and its osteopathic implications.
- Do epidurals cause an increased incidence of low back pain postpartum?
- The role of the sympathetic nervous system in chronic fatigues syndrome (Myalgic encephalomyelitis) and osteopathic consideration thereof.
- A questionnaire: time in the saddle, related back pain and the attitude of event riders to osteopathy.
- An investigation into the effect of wearing high heeled shoes habitually on the mobility of the talocrural joint, and the effect of inhibition applied to gastrocnemius on the mobility of the talocrural joint.
- Does intentional treatment through the notochordal midline enhance patients' wellbeing?
- Direct comparisons of the time dogs take to run over a set line of jumps both before and after an osteopathic treatment.
- Current concepts of subacromial impingement syndrome
- A comparative study of two stretching techniques on hamstring flexibility: muscle energy technique (MET) and a proprioceptive neuromuscular facilitation stretching technique (PNF)

- Playing related musculoskeletal disorder in musicians: a study of patterns of symptoms related to playing their instrument specific to violinists and pianists.
- The effect of thoracic visceral restriction on neck gross range of motion: a pilot study.
- The practice of osteopathy – a comparison between Belgium and UK
- Psychosocial factors: can osteopathy affect the yellow flag?
- A study to assess undergraduate student osteopaths' ability to identify patients with excess weight
- Investigation on the effect of BLT of the hip compared with MET of the psoas muscle on hip extension
- Does a manipulation to the metacarpophalangeal joints cause a change in grip strength.

9. Evidence of Staff Esteem

Mr Steven Bettles

Completed higher degree programme – award pending

MEd – Open University

Dr Peter Collins

Professional associations

Member, Institute of Biology, London

Consultant Biologist, register of the Institute of Biology

Fellow, Zoological Society of London

Other: External examiner

Assessor: British School of Osteopathy BSc Undergraduate Research Projects 2001–present

Dr Paula Fletcher

Awards (honorary positions/contracts and educational awards)

Postgraduate certificate in leadership and management (Open University)

Journal reviewing/refereeing

Member of the Advisory Board: British Journal of Osteopathy

Member of the Advisory Board: International Journal of Osteopathic Medicine

Other: External Examiner and Adviser

Examiner - University of Bedford: Postgraduate Diploma in Clinical Practice of Osteopathy in the Cranial Field (at British School of Osteopathy) 2004-2008

Examiner - University of Bedford: MSc in Paediatrics 2005–09

Examiner – University of Brighton: BSc (Hons) Oriental Medicine – acupuncture 2006–10

External adviser: University of Keele for new (part-time) BSc Hons Osteopathy

Mr Christian Fossum (honorary contract)

Journal reviewing/refereeing

Member of the International Advisory Board: International Journal of Osteopathic Medicine

Member of Scientific Advisory Board: D.O. Deutsche Zeitschrift für Osteopathie (Hippokrates Verlag)

Reviewer for Osteopathic Medicine and Primary Care

Other: Book Proposal Reviewer

Elsevier Science, United Kingdom

Mr Robert Froud (Research Working Group member)

Registration for higher degree programme

PhD – University of London

Mrs Brenda Mullinger

Professional Associations

Fellow, Royal Society of Medicine (RSM)

Honorary (Life) Fellow of the Institute for Clinical Research (ICR)

Research-related external committee membership

Member, National Council for Osteopathic Research (NCOR)

Mr Dévan Rajendran

Other: Book Proposal Reviewer
Elsevier Science, United Kingdom

Dr Annette Pantall (BSc Project supervisor)
Awarded PhD 2008
University of Surrey

10. Academic and Research Links with other Organisations and Institutions

University of Greenwich: validates BSc degree for undergraduate entry since 2006

University of Wales: validates BSc degree for undergraduate entry 2004 and 2005.

AT Still University of Health Sciences, Kirksville, MO, USA

The position of Associate Vice-Principal (Research) at the ESO is held by Mr Christian Fossum who is Associate Director of the AT Still Research Institute.

In addition, the ESO values its research links with the following institutions:

Barts and the London, Queen Mary School of Medicine and Dentistry, Centre for Health Sciences

College of Osteopaths

University of Brighton, Clinical Research Centre for Health Professions

University of Greenwich, School of Health and Social Care

Sutherland Cranial College

ABSTRACTS: NCOR Conference, London, February 2008

The following were accepted for poster presentations:

• Methodological considerations for capturing adverse events data: experience from a feasibility study in a UK school of osteopathy

Brenda Mullinger, Dévan Rajendran, Peter Collins, Robert Froud, Christian Fossum

Purpose of study

Exploring the feasibility of gathering adverse events (a/e) data in an osteopathic teaching clinic.

Relevance to osteopathy

A/e information is essential for properly informed consent. Careful consideration of methodologies for capturing such data will help generate quality evidence for osteopaths.

Methods

• Definitions

For our pilot study on how patients feel post-treatment, we used: An adverse event can be any unfavourable and unintended sign, symptom, or disease temporally associated with the use of a treatment, which does not necessarily have a causal relationship with such treatment.

• Best methods for data capture?

A prospective, questionnaire-based survey of patients attending the ESO's clinic was chosen to give robust, consistent a/e data, thereby avoiding recall of experiences. A 15-item tick-list of possible events, for patients to complete, was developed through literature review and peer input. The benefits of tick-lists are ease of completion and analysis; however, they may encourage over-reporting. A question on general outcome was included to provide balance.

• Standardisation of subjects; practitioners; techniques

Participants: To minimise variation based on prior experience, only adult patients with a 'new' complaint (no 'hands-on' treatment in previous 6 months) were eligible. The practitioners, all 4th year students, recorded areas treated, and treatment approaches, in predefined categories to aid analysis.

• Allowing for background 'noise'

Patients recorded demographic and background data, including experiences in the previous week, or past year, of symptoms (eg: headache, tinnitus, light-headedness), thereby providing a context for a/e reports post-treatment.

• Timing of reports

Reporting by patients over 3 days post-treatment (in clinic (Part I); at home (Part II) at 24, 48, 72 hours), was deemed essential; 7 day reporting (if no re-treatment) ensured completeness. A two-part questionnaire safeguarded preliminary data, even if Part II was not returned.

• Acquiring representative information

Whether to question patients or practitioners (directly or indirectly), was key.

Confidential, self-reporting by patients (outside the treatment room) would increase accuracy, remove potential bias from practitioner awareness of any a/e, and not affect normal patient

management; using a research assistant ensured good follow-up and minimal disruption to clinic practices.

Analysis and Results (Detailed in an associated abstract).

Recruitment Over 4 months, 83 'new' patients attended the clinic; 10 were late (insufficient time); 4 were unsuitable; 2 consented then withdrew before treatment. Of 67 eligible patients, 4 were referred to their GP, untreated. Post-treatment, 3 went home before completing Part I (n=60 for Part I). For Part II, n=52 (1 withdrew; 2 lost to follow-up; 5 'phone follow-up only).

Inclusion rate: $63/83 = 76\%$

Response rate: $52/63 = 83\%$.

Conclusions/discussion

- Collecting detailed self-reports of how patients feel post-treatment is feasible in a teaching clinic environment
- Obtaining acceptable recruitment and response rates, with maximal follow-up, is labour intensive
- Best methods for reporting adverse events requires further investigation
- Agreed definitions and terminology are needed (eg regarding seriousness, bothersomeness, causality) to aid subsequent pooling of data.

Implications for osteopathic practice

Standardisation of methodologies and terminology will help build an evidence base on osteopathic safety issues.

• Monitoring self-reported adverse events in patients attending a UK teaching clinic – preliminary findings from a prospective survey (pilot study)

Dévan Rajendran, Brenda Mullinger, Peter Collins, Robert Froud, Christian Fossum

Purpose of the study

Pilot study exploring the feasibility of gathering adverse events data specifically relating to osteopathic treatment in a teaching clinic.

Objective:

To determine which adverse events are reported most frequently.

Relevance to osteopathy

UK osteopaths, including student practitioners, are required to inform patients of potential risks associated with treatment; however, relevant information is sparse and none relates to a teaching clinic environment.

Participants

Adults attending a UK osteopathic teaching clinic with a 'new' complaint (no 'hands on' treatment in previous 6 months).

Methods

(Discussed in detail in an associated abstract).

Participants provided written, informed consent. They completed a questionnaire (Part I) on demographics and background; this also included a 15-item tick-list indicating how they felt (called 'additional effects of treatment') that was completed 10 minutes (10m) posttreatment.

Part II of the questionnaire comprised identical tick-lists, which were completed at home at 24, 48 and 72 hours (h) post-treatment. Student practitioners recorded, on a separate form, treatment technique(s) used and areas treated.

Analysis

Manual database entries were double-checked; SPSS (version 12.0) generated descriptive

analyses.

Results

Demographics: Sixty (34F, 26M) patients completed Part I; 52 returned Part II. For n = 60, 17% were smokers, with 48% receiving medication; ages were 19–71 (mean 43.5±13.0) years; BMI was 16–33 (mean 25.3± 3.4); 52% reported excellent or good health. In the previous week headaches, light headedness, nausea/vomiting, unexpected tiredness, had been experienced by 15%, 12%, 8%, 12%, respectively.

Treatment: Lower back problems were most common (33%); next were head/neck (20%) and upper limb (18%) complaints. Pain, stiffness and lack of mobility affected 83%, 47% and 27%, respectively. Treatment involved direct techniques (96%); HVLA (18%); indirect techniques (35%); other (12%). The main areas treated were lower back (55%), upper/mid back (37%); head/neck (33%); pelvis/hip/buttock (30%).

Outcomes: a selection of preliminary data All but 4 patients ticked one or more items at some time (total items ticked were 107, 125, 122, 108 at 10m, 24h, 48h, 72h posttreatment): most were rated by patients as ‘slight’ or ‘moderate’; 19 items were ‘severe’. The most commonly reported adverse event was local pain in area of treatment, being reported by about half the patients throughout. Other common reports at 10m were: stiffness (25%); light-headedness (15%); unexpected tiredness (15%). Stiffness became more common, peaking at 48h (48%), while light-headedness and unexpected tiredness became less frequently reported (4% and 13%, respectively). Nausea/vomiting was rarely reported, neither was tinnitus; there were 5 reports of headaches at each time point.

Conclusions/discussion

- Self-reported adverse events (called ‘additional effects of treatment’) are commonly reported by osteopathic patients.
- Tick-lists may encourage over-reporting; different data-collection methods warrant investigation.
- Further analyses are underway (eg. 7 days post-treatment data; possible correlation between adverse events and osteopathic technique(s) used.

Implications for osteopathic practice

This preliminary analysis contributes to the process of assembling prospective adverse event data, which in turn will help inform osteopathic practice.

• A pilot study comparing instrumentally obtained resting muscle tonus in low back pain subjects with a control group.

Dévan Rajendran

Purpose - To quantify resting muscle tonus (RMT) at a number of sites in the lumbar erector spinae musculature in gender-matched subjects with lower back pain (LBP) and to compare this with measurements from identical sites on non-lower back pain subjects (NLBP).

Relevance - Data on the formation and alterations to RMT collected over the last 50 years challenge the osteopathic notion that the somatic dysfunction alters tissue texture by increasing spinal reflex efferent activity. Inter- and intra-rater reliability of manual palpation traditionally used to quantify tissue textural changes when diagnosing a somatic dysfunction have demonstrated non-existent (0%) reliability ($Kappa \geq 0.4$). When viewed together these observations seem to cast serious doubt on some concepts that are fundamental to osteopathy.

Participants - 80 patients seen in a private osteopathic practice divided into two gendermatched cohorts;

1) *LBP patients* (receiving osteopathic treatment for LBP; (those with pre-existing compressive neuro- and myelopathies were excluded.)

2) *NLBP patients* (being treated for a non-spinal condition; no LBP in the last 6 months).

Exclusions for both groups: any condition or medication that altered fluid or electrolyte balances and any pre-existing pathology. All participants provided written, informed consent.

Methods - The author obtained 3 blinded instrumental measurements of RMT from the lumbar erector spinae group at 10 specific sites (located at the apices of the erector spinae musculature adjacent to the spinous processes of L1 through L5 bilaterally).

Measurements

were obtained with the subject resting prone, using an electromyotonometer (EMT) of known validity and reliability (published studies; manufactured by Neurogenics Inc, Missoula, USA). Additional anthropometric and demographic data were collected.

Analysis - Areas under the depth/mass EMT curves obtained from LBP and NLBP subjects were compared within genders using an unpaired t-test. Similar comparisons were made for the anthropometric data (unpaired t-test). Confidence intervals at 95% and 99% were calculated by converting Pearson's correlation coefficients (*r*) obtained for area under the EMT curves and anthropometric data to *z*-scores.

Results – In 40 women no significant differences in RMT were found between the LBP and NLBP groups ($p>0.05$). In 40 men, differences were found at the levels of L4 and L5 bilaterally and L2 on the left ($p<0.05$), however this was probably confounded by statistically significant non-heterogeneity between the male LBP/NLBP groups: body weight, body mass index, and occupation/activity level (sedentary vs manual workers).

Conclusions – RMT remains unchanged in LBP sufferers compared with asymptomatic controls. This finding suggests that RMT is probably non-neural, non-reflexive in origin, but may be related to the passive viscoelastic properties of the muscle.

Implications - These results appear to cast doubt on the validity and reliability of some of the osteopathic palpatory/diagnostic techniques, especially those surrounding palpation of muscle tissue. The findings may also challenge the notion of the “pain-spasm-pain” cycle as well as question the traditional reflective rationale that underpins many therapeutic techniques fundamental to osteopathy.

• **GOsC Clause 20, The Osteopath's Viewpoint: A survey by questionnaire**

Lynne Beckley

Purpose: To investigate the osteopathic profession's view of Clause 20 and its implementation, and whether it needed clarification.

Background: The General Osteopathic Council (GOsC) 2005 Code of Practice, Clause 20 states: '*You should not only explain the usual inherent risks associated with the particular treatment but also any low risks of serious debilitating outcomes*'.

This Code of Practice was implemented (on 15 May 2005) without prior consultation with the profession as a whole, and has given rise to concerns, particularly regarding availability of evidence concerning risks, and the impact of communicating these risks to the patient. Published information is limited and there are discrepancies in the literature: for example, estimates for vertebro-basilar accident following spinal manipulation range from 1 in 20,000¹ to 1 in 5.85 million manipulations².

Hypothesis: “The osteopathic profession’s view is that the GOsC Code of Practice Clause 20 needs clarification”.

Participants: A 10% random sample of GOsC UK-registered osteopaths.

Methods: A questionnaire (previously piloted) was issued to 381 osteopaths with a covering letter assuring anonymity; a returned questionnaire was taken as consent to survey participation. There was provision for positive, negative or neutral responses to 18 questions or statements relating to Clause 20.

Analysis: Descriptive analyses were performed (MS Excel spreadsheet). Also, whether graduation date or treatment style affected opinion regarding certain questions was tested (chi2 test at 5% level in Minitab).

Results: 212 questionnaires were returned (56% response); 207 were useable. 53% of respondents found Clause 20 important (positive response), 33% were neutral and 14% found it unimportant. 1990+ graduates saw more importance than earlier graduates ($p < 0.05$). 55% understood the clause to some extent, with 36% specifically understanding ‘the usual inherent risks’. There was little evidence to suggest that treatment style affected practice or opinion of the clause, except that ‘structural’ respondents state the risks to patients statistically less than expected, compared to non-structural respondents ($p < 0.05$). For 30% of all respondents, introduction of the clause has affected the way they practise, and 83% spend up to 10 minutes explaining risks to patients (but 15% spend no time). Views on the effects of explaining risk were mainly negative; 33% have had techniques refused as a result of explaining the risks. 66% believe that the GOsC should publish information regarding risks per technique to help explanations to patients.

Conclusions: This investigation showed that the wording of Clause 20 is not well understood, and that full implementation is difficult. There is evidence that pre-1990 graduates find the clause unimportant. The hypothesis was accepted. Clarification of the law and what the clause wording means in practice needs to be republished, along with widely accepted estimates for ‘serious debilitating outcomes’. Ongoing osteopathic evidence-based research appears critical, since Clause 20 will remain because the requirement within it has been established by case law³.

Chiropractic, Osteopathy and Physiotherapy Conference, London, September 2007 ABSTRACTS selected for Platform presentations

- Analysis of the possible short term effects of rib manipulation on the laterovertebral ganglia and the activity of the sympathetic nervous system. François Mezei, Jon Parsons, European School of Osteopathy, Boxley, UK.

Rationale: Various techniques in osteopathy are applied to the thorax and the ribs. Some osteopaths consider rib mobilization as an effective means to alter local sympathetic activity via an effect on the sympathetic ganglion. This concept is not shared by all and controversy exists; no practical research has been carried out to test the hypothetical effect of rib mobilization on the sympathetic ganglia.

Objective: To develop a practical model to investigate the possible effect of rib manipulative techniques on sympathetic ganglia and thus sympathetic activity.

Design: Experimental study of variations in sympathetic activity, monitored by changes in sudori-motor activity of eccrine sweat glands and correlated changes in skin resistance. Skin resistance was recorded using a galvanometer.

Participants: Fifteen randomly selected, healthy male volunteers aged 20–30 years. The following exclusion factors were applied: skin and cardiovascular pathologies, acute pain, and any condition which contraindicates manipulation e.g.: recent trauma to thoracic cage.

Methods: Variations in electrodermal activity was recorded at the level of the left hand using a Thought Technologies GSR2 machine. The recording was conducted during the experimental technique (on the left 3rd and 4th ribs) and the control technique (on the right 6th and 7th ribs), each being performed three times.

Results: All subjects (100%) showed an increase in electrodermal activity following manipulation. Statistical analysis revealed a significantly higher increase in the electrodermal response following the performance of the experimental technique, compared to the control technique. Within 30 seconds, electrodermal activity was back to normal. **Conclusion:** The results suggest that rib manipulation has a clear impact on electrodermal activity and may reflect a short lived effect on sympathetic activity. The osteopathic relevance is that dysfunctions of the sympathetic system could be addressed using rib manipulative techniques.

• Cervical Rotation in Tractor Drivers and its Relationship to Neck Pain and Headaches

Rachel Milner, Paula Fletcher, European School of Osteopathy, Maidstone.

Rationale: Farmers spend approximately 55 hours a week, in busy periods, tractor driving. Many of their tasks require them to look behind the tractor, at trailing implements, for prolonged periods.

Aims and Objectives: To establish whether tractor drivers have an altered range of cervical rotation in comparison to non-tractor drivers. To determine if subjects demonstrated any correlation between range of cervical rotation and experience of neck pain and headaches.

Design: Primary data gathering.

Participants: Forty male subjects aged 40 – 55 years were recruited via incidental sampling; 20 with at least 10 years tractor driving experience, and 20 non-tractor drivers, all gave written informed consent. Exclusion factors included previous incidence of trauma or neck pathology.

Method: Subjective data was gathered by questionnaire; objective measures of cervical range of rotation were gathered and compared between groups (unpaired t-test).

Results: Tractor drivers had a significantly greater range of right cervical rotation ($p = 0.0001$) and a significantly smaller range of left cervical rotation ($p = 0.025$) than nontractor drivers. Active range of right cervical rotation was significantly greater than left cervical rotation in tractor drivers ($p = 0.0001$) by a mean of 18.78 degrees. Tractor drivers were found to experience neck pain ($p = 0.025$) and headaches ($p = 0.05$) more frequently than non-tractor drivers. A negative correlation was demonstrated between range of active cervical rotation and incidences of neck pain in both populations ($p = 0.025$).

Conclusion: Tractor drivers had a greater range of right cervical rotation than non-tractor drivers. Tractor drivers experienced neck pain and headaches significantly more frequently than non-tractor drivers. Active range of cervical rotation tends to be negatively correlated with subjective reports of neck pain incidence in both tractor drivers and non-tractor drivers.

London College of Osteopathic Medicine – Research Report for 2007/8

During a period of intense re-organisation and refurbishment at the LCOM research activity had necessarily slowed. However the appointment of Dr Roderic MacDonald as the first Research Director at the LCOM signalled the continuing priority invested in research. Development of a research proposal for the assessment of osteopathic manipulation in Restless Legs Syndrome has continued in collaboration with the University of Westminster and nears completion. As soon as this process is complete the physical resources and personnel are available to start a period of four months data collection on site in Marylebone.

College graduate, Dr Nefyn Williams, gave a lecture on the second day of the 'Advancing Osteopathy 2008' conference, examining the effects of the whole process of osteopathic evaluation and management, informed by the RCT evaluating his use of osteopathy in general practice.

[Williams NH, Edwards RT, Linck P et al. "Cost-utility analysis of osteopathy in primary care: results from a pragmatic randomized controlled trial". *Family Practice* 2004 21:6): 643-50. & Westmoreland J , Williams NH , Wilkinson C , Wood F. "Should your GP be an osteopath? Patients' views of an osteopathy clinic based in primary care". *Complementary Therapies in Medicine* , Volume 15 , Issue 2 , Pages 121 - 127]

Dr Williams and the Research Director were involved in the debate on the first day of the conference concerning the relevance of RCTs to the development of osteopathy.

While accepting the importance of pragmatic RCTs, the LCOM continues with the opinion that an equal emphasis should be given to examining the mechanisms associated with the diagnosis and treatment of somatic dysfunction. Although not favoured by those funding research fastidious outcome studies should also be considered to allow evidence-based development of osteopathic practice methods.

Dr Roderic MacDonald, Research Director.

London School of Osteopathy

Annual Report on Research

London School of Osteopathy

October 2008

Review of Research Activity at the LSO

Historical context

The dissertation program was introduced to the LSO in 1993 as an essential feature of the integral assessment programme at a standard consistent with an honours level award. The first dissertations were completed and submitted in 1998.

The LSO retained Norman Hester and Steven Reed of Westminster University to support the students with the generation of their dissertations. As mentioned in the last Report they are continuing to provide expertise, encouragement and patience in helping students to clarify, develop and refine initial ideas into more realistic proposals. This help is complemented by guidance concerning the choice and application of statistical support and analysis where necessary in locating and examining emergent findings and general writing up the dissertations. The Principal continues to provide workshops and lectures in the operational aspects of putting a dissertation together.

Standards and supervisory staff

The academic year of 2007-8 is the 11th cohort. Similarly, to the previous year, this cohort were again an outstanding year. They included the second cohort of our Accelerated Learning Program (ALP) of physiotherapists and a medical graduate. We have again included the final grades of this cohort as we consider they reflect the quality of the LSO's graduates. They demonstrate the range and diversity of what the students are capable of. Students are exploring both qualitative and quantitative aspects of issues surrounding the clinical arena. The ALP students undertook Comparative Critiques rather than dissertations. The awards were as follows:

First Class Hons	5
Upper Seconds	9
Lower Seconds	2
Thirds	1

We are pleased that we have retained the same team of supervisors for the 2006-7 students. The dissertation program demonstrates the continuing maturity of this team.

Glen Sontag, the student who succeeded in obtaining funding and undergoing a rigorous ethical protocol in having his research dissertation passed by a Primary Care Trust received the top mark awarded. His study was **A pilot study to examine the effect of osteopathy on health outcome measures and immunological markers in Human Immunodeficiency Virus (HIV) positive patients** the abstract of which can be seen in Annex A. He will be presenting his dissertation at the 5th Chiropractic Osteopathy and Physiotherapy Annual Conference: **“Moving forward through research and practice”** held at the Anglo-European School of Osteopathy. (This was an Undergraduate Research Conference across three professions: osteopathy, chiropractic & physiotherapy). Michael Boyd is also presenting his dissertation **A study of the effect of osteopathic technique on brain wave activity using electroencephalographic equipment**, the abstract of which can be seen in Annex A.

Dawn Limbert has continued to be the LSO's representative on NCOR. Dawn has commenced a Masters program at Leeds Metropolitan University. The title of her dissertation is **A study investigating whether reduced proprioception exists in gymnasts with hypermobility**. Other LSO graduates are enrolling onto Masters programs providing evidence of a research based ethos at the school.

Publications and presentations

The next issue of the *British Osteopathic Journal* (Vol XXIX 2008), is currently preparing to go to press. This will be the first issue under Derrick Edwards' editorship. Its theme will focus on education and research.

LSO MSc course

In line with current trends in osteopathic education the LSO is in the process of preparing a Bachelor/Masters of Osteopathy of Osteopathy programs for validation. This will be seen as formal

recognition of many parts of the course being delivered at Masters level at the present time and a natural progression leading from the quality of the results of its recent graduates.

Ethical considerations

By and large, again, it is only ethical issues in relation to research dissertations that have concerned the LSO. Similarly as before, in the majority of cases, the issues were and are minor. There has been little to concern the ethics committee.

Staff of the LSO registered as dissertation supervisors and areas of interest 2007

Mark Bujakowski

- Biomechanics
- Patients' perceptions
- Motion/palpation reliability

Simon Chafer

- Politics of osteopathy
- Contemporary issues of osteopathy
- Principles & concepts
- Perceptions of patients & practitioners
- Perspectives of education

Emma Chippendale

- Psycho-social issues
- Sociology
- Patients' perspectives/management
- The knee
- Practice issues/management

Jo Cole

- Acute patients
- Neurological disorders

Dr Martin Collins

- What makes patients better
- Why does 'practise' work
- And other topics that may interest him

Derrick Edwards:

- Learning
- Sociology of health
- Health psychology
- Roles of regulatory and professional bodies,

Fiona Hamilton:

- Education
- Attitudinal/emotional perspectives
- Sport.

Robin Kirk:

- Patients' perceptions
- Health belief models
- Psycho-social influences
- Health issues influenced by culture, gender, ethnicity etc;
- Historical perspectives
- SAT; TBA.
- Use of language, terminology in healthcare

Dawn Limbert

Sports care
Psycho-social issues
Postural issues
Osteopathic principles

Nico Tanguay

Osteopathic principles and concepts
Biomechanics

Ed Wilmott:

Apparatus based studies involving biomechanics
Motion/palpation
Ergonomics and ergometrics

Heath Williams

Sports injuries
Rehabilitation
Techniques appertaining to the above

Phyllis Woodfine

Repetitive strain injury
Women's issues in health and illness

Other Academic and Research Links**Robin Kirk**

Ex-Editor: *British Osteopathic Journal*
External Examiner: Oxford Brookes University
External Examiner: Pg Dip osteopathy in the cranial field BSO
Involvement in CAM Module Delivery at BSMS
Ex-Council Member: British Osteopathic Association
SIOM Lecturer: Psychosocial Concepts Module
Expert Witness in Medico-legal Cases
Final Clinical Competences Assessor for GOsC

Fiona Hamilton

Course Leader LSO
Involvement in CAM Module Delivery at BSMS
Involvement Module Delivery MSc Physiotherapy, UoB
Final Clinical Competences Assessor for GOsC

Derrick Edwards

Director of Quality Enhancement LSO
Quality assurance adviser ESO
Unit Leader MSc/PgDip osteopathy in the cranial field BSO

Martin Collins

External Examiner: SIOM, ESO,
Lecturer: ICOM, BSO, OBU

Maria Counce

External Examiner: Cardiff University, Bangor University
Course Director: Post-grad Diploma Occupational Therapy, London South Bank University
Senior Lecturer In Biomedical Sciences

Robert Elliott

Programme Leader: Biomedical Sciences University of Westminster
Theme Leader: Health Sciences School of Integrated Health
External Examiner: University of East London

Member: Higher Education Academy

Annex A

Abstracts:

Paola Ash

Supervisor: Nico Tanguy

Title: A comparative investigation of palpation sensitivity amongst qualified osteopaths with five years or more experience, final year osteopathic students and persons with no prior manual therapy training

Michael Boyd

Supervisor: Nico Tanguy

Title: A study of the effect of osteopathic technique on brain wave activity using electroencephalographic equipment

Suzanne Cooper

Supervisor: Dawn Limbert

An analysis of the incidence of asthma and associated factors in patients presenting with primary thoracic spine pain at the London School of Osteopathy Outpatient Clinic

Geraldine Fahy

Supervisor: Robin Kirk

A pilot study to explore the extent to which UK osteopaths believe they can help patients with conditions that are perceived as being normally diagnosed and treated by orthodox medicine

Robert S. Flitman

Supervisor: Simon Chafer

A comparative study of osteopaths' and general practitioners' views regarding contemporary osteopathic issues in the UK

Marco Giorgetti

Supervisor: Nico Tanguy

A study to identify the effect of cervical spine HVT manipulation on blood pressure

Karl Healy

Supervisor: Phyllis Woodfine

An investigation into the changes in muscle strength following the application of muscle energy technique, or soft tissue mobilisation

Ben Holland

Supervisor: Heath Williams

A Review of Strategy used by Osteopaths in the Treatment and Rehabilitation of Acute and Chronic Sports Injuries

David Langdon

Supervisor: Simon Chafer

A study of the relationship between stress and chronic pain. Can this be statistically evaluated and is there a role for Osteopathy in treating such a combined condition?

Matthew Lee

Supervisor: Dawn Limbert

An investigation into Muscle Energy Technique and its effect on hamstring length over time and comparison of the same between female and male subjects

Phillip G McDowell

Supervisor: Phyllis Woodfine

Title: An Investigation of the relationship of driving to external leg rotation and the incidence of lower extremity pain in car drivers

Sanjeev Ram

Supervisor: Dawn Limbert

Are certain types of Osteopathic techniques more prone to injury for the practitioner than others?

Glenn Sontag

Supervisor: Emma Chippendale

A pilot study to examine the effect of osteopathy on health outcome measures and immunological markers in Human Immunodeficiency Virus (HIV) positive patients

Lisa Wild

Supervisor: Robin Kirk

A study to investigate the perceptions and understanding of osteopathy as a treatment amongst the running community

Comparative Critiques:

Kate Davidson

Comparative critique of the therapeutic relationship in medicine versus that in osteopathy

Jose Montero

Comparative Critique: physiotherapy & osteopathy

Clare Slater

Comparative Critique: physiotherapy & osteopathy

Paola Ash

Supervisor: Nico Tanguy

A comparative investigation of palpation sensitivity amongst qualified osteopaths with five years or more experience, final year osteopathic students and persons with no prior manual therapy training

ABSTRACT

Objective

Palpation is a fundamental osteopathic skill that forms part of the patient treatment and management plan. It provides important information about the quality of neuro-musculoskeletal tissues including tissue temperature, texture, resistance and joint motion. Based on the above it was the author's intent to explore the relationship of palpation sensitivity related to experience and to examine whether an ideal palpatory pressure exists when palpating anatomical landmarks on a human body.

Design

A mixed group design was employed in order to compare any possible palpatory sensitivity difference and to identify any possible correlation of ideal pressure(s) applied whilst palpating 3 landmarks. The volunteer's landmarks were covered by 10 sheets of cotton with ready made detachable Velcro cut-outs in order to ensure the surrounding other neuromusculoskeletal areas were covered. Times taken to palpate each anatomical landmark were recorded. A record was also made of the number of sheets that were requested to be removed in order to palpate each landmark.

The 3 groups have been divided into:

- Group A - Persons with no prior manual therapy training (n=15).
- Group B - 15 Final Year osteopathic Students (n=15)
- Group C - Qualified osteopaths with over five years experience (n=15)

All Subjects were required to blindfold themselves whilst undertaking the experiment.

Results

A statistical significance was demonstrated by qualified osteopaths and final year students increased ability to palpate the patella and clavicle landmark within shorter time scales and over more sheets comparatively to those in the non experienced group ($p < 0.05$). A non-significant statistical significance was found when

qualified osteopaths and final year students were compared to the non experienced group in anterior superior iliac spine landmark identification.

Conclusion

For the clavicle and patella landmark identification this study demonstrates that palpatory skill is enhanced in qualified osteopaths and those in their final year of an osteopathic degree course comparatively to those with no prior manual therapy training.

For anterior superior iliac spine landmark identification this study demonstrates that neither final year students nor qualified osteopaths have enhanced palpatory skill comparative to those with no experience.

Key Words

Algometer, chiropractic, dysfunction, manual therapy, neuromusculoskeletal, osteopathy, palpatory awareness, palpation, palpometer, physiotherapy, pressure threshold, proprioception, somatic dysfunction, sensibility, sensitivity, START, student(s), temperature, texture, tissue, tone, touch.

Michael Boyd

Supervisor: Nico Tanguy

A study of the effect of osteopathic technique on brain wave activity using electroencephalographic equipment

ABSTRACT

Background and Objectives: Limited research has been conducted into the physiological effects of cranial osteopathic treatment. Other studies have used heart rate, respiration rate, skin resistance and skin temperature, and electroencephalographic (EEG) activity to measure change in the body. The aim of this study was to investigate whether an osteopathic technique has a significant effect on brain wave activity as measured by EEG equipment.

Design: Block design with repeated measures

Subjects and setting: Twenty (20) asymptomatic subjects (nine male, eleven female; aged 22-50) participated in this experimental study conducted at the London School of Osteopathy, United Kingdom

Interventions: Subjects were exposed to five phases consisting of an initial baseline (no contact), touch only, compression of the fourth ventricle technique (CV4), touch only, and a final baseline recording (no contact).

Outcome measures: Brain wave activity was recorded using portable EEG equipment in the frequency range of 0 Hz to 38 Hz, with amplitude change analysed between phases using non-parametric statistical tests at a significance of $p < 0.05$.

Results: The results of this study showed significant decrease in brain wave amplitude ($p < 0.05$) in the higher alpha and beta frequency ranges of brain wave activity (10.5 Hz to 38 Hz). This change was attributed to the touch and technique phases of the study. It was not possible to identify if this change was specifically due to application of the CV4 technique.

Conclusions: This study demonstrates that a combination of touch and cranial osteopathic technique is responsible for a decrease in brain wave activity, primarily in the frequency ranges associated with active nervous system function. Further research is required to conclude whether this change can be directly attributed to osteopathic technique. While the potential for a simultaneous decrease in nervous system activity affecting the whole body is explored, further research is required to quantify this effect.

Key words: Osteopathy, cranial manipulation, cranial osteopathy, cranial technique, brain waves, EEG, CV4, nervous system

Suzanne Cooper

Supervisor: Dawn Limbert

An analysis of the incidence of asthma and associated factors in patients presenting with primary thoracic spine pain at the London School of Osteopathy Outpatient Clinic

Abstract

Description

The purpose of the study is to ascertain if asthmatic patients have a higher incidence of thoracic spine pain than non-asthmatics. It will also examine whether differences exist between cohorts in gender, age and month of first attendance, BMI, smoking history, pain level and quality, number of treatments required and working diagnosis.

Methods used

The study cohort was selected from past patients aged 18+ who presented at the London School of Osteopathy clinic whose primary site of pain is the thoracic spine. An excel database was used to extract the required data.

Findings

There were no significant differences in the prevalence of asthma between asthmatic and non-asthmatic patients. Asthmatics demonstrated higher pain levels, required more treatment than non-asthmatics and were more likely to attend during peaks in environmental allergens. They were also more likely to be diagnosed with thoracic spine dysfunction. An above average number of asthmatics of both genders smoked. Male asthmatics demonstrated higher BMIs than asthmatic females and attended at an earlier age than other groups.

Geraldine Fahy

Supervisor: Robin Kirk

A pilot study to explore the extent to which UK osteopaths believe they can help patients with conditions that are perceived as being normally diagnosed and treated by orthodox medicine

ABSTRACT

Background: With the advent of statutory regulation (Osteopaths Act 1993) and an emphasis on evidence-based research, the scope of osteopathy has been changing but exactly how is unclear.

Objective: This pilot study was designed to explore the scope of osteopathy, in particular the extent to which UK osteopaths believe they can help patients with conditions that are perceived as being normally diagnosed and treated by orthodox medicine. Comparison between osteopaths that incorporate different elements of osteopathy into their practice (e.g. structural, visceral, cranial) was also investigated.

Methods: A one-shot postal questionnaire was sent to 300 registered UK osteopaths. 34 conditions were selected for inclusion in the study based on a literature review of the existing evidence of the efficacy of osteopathic intervention and a desk research exercise looking at the websites of current UK osteopaths. Data groups were investigated using an unpaired t-test (welch corrected) analysis. Content analysis on open-ended questions was also performed.

Results: The response rate was 29% (87 responses). There was a high level of belief among the survey population that osteopathy can help with a small number of conditions usually diagnosed and treated by orthodox medicine, namely osteoarthritis (97.7%), asthma (96.5%), ankylosing spondylitis (85%), pregnancy (84%), IBS (83.9%), colic (77%) and glue ear (76%). There was a significant difference ($P=0.0012$) in the mean number of conditions that can be helped with osteopathy between those osteopaths that practice 'structural only' and those that practice 'structural, visceral, cranial and other'. There also appeared to be a low level of confidence among the survey population in advising patients on medication.

Conclusion: Respondents reported a strong belief and actual success in helping patients to cope with particular conditions normally perceived as being diagnosed and treated by orthodox medicine, in particular osteoarthritis, asthma, ankylosing spondylitis, pregnancy, IBS, colic and glue ear. In light of this there is a case for a review of the interface between osteopathy and orthodox medicine in the management of these conditions with the potential benefits being reduced need for medication and reduced pressure on GP's time especially for chronic conditions. The profession would benefit from increased promotion in relation to all

of the various approaches to osteopathy including visceral and cranial. And, more training and guidance for practicing osteopaths in relation to medication would also help. However, this was a pilot study and these findings need to be explored on a wider scale in a more representative sample.

Robert S. Flitman

Supervisor: Simon Chafer

A comparative study of osteopaths' and general practitioners' views regarding contemporary osteopathic issues in the UK

Abstract

The intention of this ostensibly quantitative research has been to identify both similarities and discrepancies in the understanding of GPs' attitudes and perceptions, as well as those of osteopaths, in order to debunk certain accepted wisdoms.

To fit this purpose, two interdependent questionnaires were developed in consultation with practicing osteopaths and GPs for issue to two random populations of 100 practising osteopaths and 100 GPs.

Following their receipt and data analysis four philosophical themes were developed for discussion. Namely, referrals, the NHS, pharmaceutical interventions and education, evidence base and research.

Results do suggest that osteopaths may underestimate the esteem GPs have for the knowledge and skills of osteopathy. This may be viewed as a very positive thing and may be an indicator of the health of the UK osteopathic profession and good prospects for inter-practitioner cooperation.

The study also indicates that GPs are more satisfied for osteopaths to offer treatments such as needle aspiration and anaesthetic injections than the osteopaths themselves. However, more than half the osteopaths who responded would be satisfied to prescribe analgesics and non-steroidal anti-inflammatory pharmaceuticals.

Marco Giorgetti

Supervisor: Nico Tanguy

A study to identify the effect of cervical spine HVT manipulation on blood pressure

Abstract

The purpose of this study was to identify whether HVT manipulation and soft tissue techniques on restricted area of the cervical spine has a significant influence in reducing blood pressure levels in comparison with only soft tissue treatment.

Twenty students of the London School of Osteopathy volunteered to participate in the blood pressure measurement protocol in one 20 mins. osteopathic treatment limited to the cervical area. These subjects were placed in two groups based on the clinical findings during osteopathic examination. One group, the treatment group was formed on the basis that they had cervical reduced range of motion in any area of the cervical spine due to zygapophyseal and/or atlanto-occipital joint restrictions. The control group was similar but the reduced range on movement was only due to increased muscular tone. Clinical and experimental procedures were carried out identically for each group but the HVT manipulation was applied (where needed) only for the treatment group. Blood pressure levels were recorded by left arm cuff digital sphygmomanometer. The first blood pressure recording was measured after that each subject was asked to lay supine for 5 mins. and the second immediately after the treatment.

The systolic blood pressure levels were statistically not significantly lower in the Experimental group (difference in mean 0.1mmHg and $p>0.05$) due to 3 subjects who experienced an increased level of systolic Bp at the end of the treatment. Instead, the diastolic levels were significantly decreased (difference in mean 3.7 mmHg and $p=0.021406$). In the Control group both systolic and diastolic levels were considerably decreased (systolic $p=0.001237$, difference in mean 6.5mmHg and diastolic $p=0.00375$ with difference in mean 3.8mmHg).

The above-unexpected result related to the systolic blood pressure levels in the treatment group would confirm the contraindication of HVT manipulation in people suffering from hypertension. The practical and hypothetical reason of this result, together with the difficulties encountered during the experiment are discussed in the chapters below. Following digital sphygmomanometer instructions, reliability of blood pressure readings were established with a margin of error of 3mmHG.

Karl Healy

Supervisor: Phyllis Woodfine

An investigation into the changes in muscle strength following the application of muscle energy technique, or soft tissue mobilisation

ABSTRACT

Background and Objectives: Soft Tissue Mobilisation (STM) and Concentric Isotonic Muscle Energy Technique (MET) are common treatment techniques used by manual therapists in the rehabilitation of many musculoskeletal disorders. The aim of this controlled study was to examine the immediate physiological changes in the quadriceps muscle after the application of either STM or MET, by measuring changes in muscle strength.

Methods: Asymptomatic subjects (N = 27) were randomly allocated to one of three groups, receiving either STM for three minutes, three sets of concentric isotonic MET, or control (three minutes relaxing supine). Two consecutive strength measurements were taken from the left quadriceps muscle, directly before and after the allocated treatment, using a bespoke measuring apparatus with a force gauge. This process was repeated for the right quadriceps muscle to give two measurements per subject.

Analysis: Compared to pre-treatment strength measurements, post-treatment measurements were significantly greater for the STM treatment group ($p = 0.017$), however there were no significant changes for both the MET ($p = 0.84$) and the control groups ($p = 0.22$). These were analysed using within group paired t-tests.

A one-way analysis of variance with Student-Newman-Keuls multiple comparisons test, compared the differences of the pre and post strength measurements between each group and found no significant differences ($P = 0.14$).

Conclusion: The study showed that there was a significant increase in quadriceps muscle strength after the application of STM, indicating it may be a beneficial technique in patient rehabilitation. Although MET showed no significant effect on muscle strength, its therapeutic effects in rehabilitation cannot be dismissed, as the large number of variables in this study, discussed in the limitations, may have influenced the accuracy of the study and may need further refinement. Alternatively, concentric isotonic MET may indeed have no immediate effect on muscle strength, which challenges the current beliefs and models regarding the physiological effects of this type of MET. However, further study of MET would be required, which considered both immediate and long-term effects, in order to add clarity to the results.

MET and STM techniques are widely accepted within the manual therapies, however their effectiveness is poorly supported by robust clinical evidence, therefore further research is needed to endorse their use in patient rehabilitation.

Key Words: Soft tissue mobilisation, concentric isotonic, muscle energy technique, quadriceps, muscle strength osteopathy.

Ben Holland

Supervisor: Heath Williams

A Review of Strategy used by Osteopaths in the Treatment and Rehabilitation of Acute and Chronic Sports Injuries

ABSTRACT

Aims and Objectives

- To investigate the treatment and management strategies used within the therapeutic encounter between Osteopaths who work predominantly in the field of sports injury compared to those who do not. Specifically,
 - To determine the different types of treatment offered when dealing with specific sports injuries, differentiating between acute and chronic presentations.
 - To compare the type of treatment modalities used by those osteopaths working mainly with sports injury and those who do not work predominantly with sports injury.
- To establish whether or not those osteopaths dealing with more sports related injuries offer a more comprehensive rehabilitation program than those osteopaths who do not.

Methods

A questionnaire based study, using a self-deigned questionnaire was sent to a random selection of practicing osteopaths found in the national register.

All participants were asked if 60% or more of their patients had sports related injuries, where sports injury is defined as 'an acute or traumatic injury occurring during any sporting activity.' Although 51% would indicate a majority 60% was used to indicate a significant majority of patients seen who had sports injuries.

Key findings

Fifty-one responses were received, indicating a response rate of 50.5%. Of the returned questionnaires, 10 (19.6%) were from Sports Osteopaths and 41 (80.4%) from Non-Sports Osteopaths. The response rate was significantly large enough for it to be argued that this study is a microcosm of the general population of osteopaths throughout England.

The different modalities utilised by osteopaths in the treatment of injuries varies significantly. In the sample, 54.9% of osteopaths used more techniques when treating chronic injuries; this was true of 90% of Sports Osteopaths. Respondents used most techniques when treating facet strain injury, the most popular technique being High Velocity Thrust (HVT) in both the acute and chronic phase of injury. The least amount of techniques were used in the treatment of a fracture, referral was most common. The majority of osteopaths support the use of hydrocortisone injection and almost all respondents made referral to orthopaedic consultants at some point each year. A rehabilitation program was offered unanimously with 72.5% of the respondents self-designing the program, 4% referring and 23.5% using a combination of the two.

Evidence suggested that patients with sports injuries would receive a wider variety of treatment and a more comprehensive rehabilitation program from an osteopath who deals predominantly with sports injuries. More evidence is needed to establish the efficacy of this treatment.

David Langdon

Supervisor: Simon Chafer

A study of the relationship between stress and chronic pain. Can this be statistically evaluated and is there a role for Osteopathy in treating such a combined condition?

Abstract

Objectives:

It is hypothesised that there is a link between chronic pain and stress and that osteopathic treatment can reduce these factors. This study was designed to see if there is a relationship between chronic pain and stress that can be statistically correlated and whether the treatment of chronic pain using variable osteopathic techniques can, indirectly, lead to a reduction in stress and therefore pain levels.

Methods:

This was a three part, questionnaire based study analysing:

1. Any statistical correlation between chronic pain and stress.

2. To assess whether osteopathic treatment for chronic pain causes a reduction in stress levels.
3. The effect of different treatments on patient stress levels.

Results:

Questionnaire 1:

50% of individuals showed a statistically significant relationship between their emotional stress/pain levels. 61.11% of individuals showed a correlation between their physical stress/pain levels. 61.11% showed significant correlation between the totals for stress/pain level. Finally 66.66% had some form of correlation between their stress/pain levels. 33.33% showed no correlation.

Questionnaire 2 (part 1):

Results showed a statistically significant reduction in all the individual questions within the 95% confidence intervals, except for question 2 which just failed.

Questionnaire 2 (part 2):

Insufficient data was available to analyse this questionnaire.

Conclusion:

This project has shown that there is a statistically relevant correlation between chronic pain and stress and osteopathic treatments result in reductions in both pain and stress levels. This could warrant further research in the future to expand on these findings and also to look at the efficacy of different treatment protocols for different presenting conditions.

Matthew Lee

Supervisor: Dawn Limbert

An investigation into Muscle Energy Technique and its effect on hamstring length over time and comparison of the same between female and male subjects

ABSTRACT

AIM OF STUDY

To further inform osteopaths in clinical use of muscle energy technique. Exploration of the mechanism behind observed changes at different time intervals and genders may help support current theories of muscle energy technique neurophysiology.

METHODS

Thirty-one asymptomatic subjects of mixed gender took part, following operator instructions as per a pre experimental briefing. Physical measurement data were gathered using goniometry at the hip joint before and, at specified time points after, directed muscle energy technique intervention to the hamstrings muscles. Changes in resting length of the hamstrings muscles post intervention were recorded and analysed.

FINDINGS

Changes in muscle length remain measureable and extremely significant ($P < 0.0001$) up to 3 hours after intervention. There is no significant difference in muscle length 7 hours ($P = 0.0897$) post intervention. There is no significant difference in stretch response between male and female subjects immediately following ($P = 0.8127$), at 1 hour ($P = 0.2333$), 3 hours ($P = 0.0662$) and 7 hours ($P = 0.4961$) after intervention.

CONCLUSION

Following a single intervention of PIR MET, an extremely significant stretch of the hamstring was produced which lasted 3 hours. Gender has no significant effect on stretch response at any time point following single MET intervention. This data helps support the current 'stretch tolerance' theory of MET neurophysiology which is purported to be independent of the viscoelastic properties of muscle.

Phillip G McDowell

Supervisor: Phyllis Woodfine

Title: An Investigation of the relationship of driving to external leg rotation and the incidence of lower extremity pain in car drivers

Abstract

Aims

To determine if there are significant difference between hours spent driving on a weekly basis, longest journey time and increased right or left leg external rotation in standing and sitting postures with the presence or absence of self-reported lower extremity (hip, knee, ankle/foot) pain.

Design

Cross-sectional: two groups of general population of drivers (N=26), 1) those reporting LEx pain when driving and 2) those reporting no LEx pain when driving.

Outcome measures

The primary outcome measure: left and right lower extremity rotation angles Φ_L and Φ_R . Additional outcome measures: approximate weekly hours driving, approximate length (hr) of the longest individual journey, the age of the driver and the total number of years driving experience.

Null Hypotheses (H_0)

There is no statistically significant difference in outcome measures between those with self-reported lower extremity (hip, knee, ankle/foot) pain when driving and those without pain when driving (level of significance (LoS) $P=0.05$).

Methods

Modified questionnaire to determine driver habits and presence, level and site of lower extremity pain plus measurement of Φ_L and Φ_R .

Results

15 subjects reported pain on driving, 12 predominantly right-sided 3 left sided. The most frequent site of pain was right knee. Φ_R was significantly greater in subjects reporting right-sided pain compared to those with no pain ($P<0.05$) for both standing and sitting. Longest journey and driver age were significantly higher in subjects reporting pain (all sites) compared to those with no pain ($P<0.05$). Pain increased over time during journeys in 13 out of 15 subjects with pain.

Conclusions

The primary outcome measure Φ_R has been shown to be significantly larger in drivers reporting right sided LEx pain in two postures, standing and sitting compared to those reporting no pain, suggesting a correlation between the two parameters.

This study appears to be the first or one of very few to investigate lower limb pain in drivers with the aim of differentiating the side of pain using an objective physical measurement.

Key Words: External rotation, internal rotation, lower extremity pain, sciatica, driving, car, rotation angle measurement, standing, sitting, driving time,

Sanjeev Ram

Supervisor: Dawn Limbert

Are certain types of Osteopathic techniques more prone to injury for the practitioner than others?

Abstract

Objectives

To assess whether certain Osteopathic techniques could be a pre-disposing factor for injury to the Osteopath.

Design

A web based self-administered questionnaire.

Subjects

The questionnaires were sent out to 661 valid e-mail addresses of Osteopaths registered in the UK and Ireland.

Inclusion criteria: Members of the GOsC register and a valid e-mail address.

Exclusion criteria: Osteopaths without e-mail addresses or partially completed questionnaires.

Intervention

An adapted pre-existing questionnaire designed and used for research by Thielsch (2004) was used as the basis for an online questionnaire.

Outcome measures

Self reported occupational musculoskeletal injuries.

Results

A total of 28.9% responded (n=191) of which 54.45% (n=104) were injured due to their practice of osteopathy. Frequency of technique usage was not found to be a statistically important factor for injury predisposition. Most osteopaths attributed their injuries to high velocity thrust (HVT) as 64.56% (n=51, P=0.0078), which occurred in the first two years of practice due to poor proficiency. The most important factors affecting injury avoidance were correct posture 89.01% (n=170), an adjustable bench 89.01% (n=170), a larger range of techniques 75.92% (n=145) and flexibility exercises 40.31% (n=77).

Conclusion

This study shows that poor technique proficiency is the most likely cause of technique related injuries. Frequency of technique usage is not a statistically significant factor for injury predisposition.

Glenn Sontag

Supervisor: Emma Chippendale

A pilot study to examine the effect of osteopathy on health outcome measures and immunological markers in Human Immunodeficiency Virus (HIV) positive patients

ABSTRACT

Background and Objectives: Patients living with the Human Immunodeficiency Virus (HIV) often experience symptoms within the neuromusculoskeletal system, either as a direct result of the virus, opportunistic infections and / or side-effects of the medication known as 'Highly Active Anti-retroviral Therapy' (HAART). Many HIV positive patients use osteopathy to help manage these symptoms. The aim of this randomised waiting-list controlled study was to examine the effects of osteopathy on the quality of life and the immunological markers of HIV positive patients.

Methods: Subjects (n=42) were randomised to either a treatment group (n=21), receiving up to 5 fortnightly osteopathic treatments with immediate effect, or a delayed treatment / waiting-list control group (n=21). Subjects were asked to have their routine immunological markers (viral load, CD4, CD4%, CD8, CD8% and CD4/CD8 ratio) taken up to 4 weeks before starting the study and up to 4 weeks after completing the study. Additionally, all subjects were asked to complete an HIV specific health-related quality of life measurement questionnaire ('MOS-HIV') before, mid-point and at the end of the study.

Analysis: Only data from those who received a minimum of 4 osteopathic treatments were included in the analysis, excluding 5 subjects (new n=16). Results from the MOS-HIV questionnaire showed that HIV positive subjects who received a minimum of 4 osteopathic treatments over an 8 week period showed a significant (p<0.05) improvement in overall health (p=0.0494), cognitive function (p=0.015), pain (p=0.018) and health transition (p=0.003) when data collected at visit 1 and 5 were compared. Osteopathy made no significant (p>0.05) difference to the other MOS-HIV parameters measured (physical function, role function, social function, mental health, energy / fatigue, health distress and quality of life) for any of the visit comparisons (visit 1 and 3, visit 3 and 5 and visit 1 and 5). Osteopathy made no significant difference (p>0.05) to any of the immunological markers.

Conclusion: This study showed that osteopathy significantly improved 4 out of 11 measurements of health contained within the MOS-HIV questionnaire (overall health, cognitive function, pain and health transition) in those who are HIV positive and who completed at least 4 osteopathic treatments within 8 weeks. Osteopathy did not significantly affect the other parameters contained within the questionnaire or any of the immunological markers.

Key Words: Osteopathy, Human Immunodeficiency Virus, HIV, Acquired Immune Deficiency Syndrome, AIDS, immunological markers, CD4, CD4%, CD8, CD8%, CD4 / CD8 ratio, viral load, complementary and alternative medicine, CAM, health outcome measures & MOS-HIV questionnaire.

Lisa Wild

Supervisor: Robin Kirk

A study to investigate the perceptions and understanding of osteopathy as a treatment amongst the running community

1 Abstract

The purpose of this study was to gain an understanding of perceptions and awareness of osteopathy amongst the running community in the United Kingdom (UK). It seeks to determine the baseline level of knowledge the running community has towards osteopathy as a profession. It then seeks to identify which manual therapy discipline is the preferred choice of treatment amongst runners and to see what their treatment of choice has previously been if any. Finally it aims to determine if the osteopathic profession has been successful in promoting osteopathy as a system of health care for a wide variety of complaints to such a group as the UK running community.

The experience of the author, a regular member of a running club and competitor of numerous running events throughout the UK is that the baseline knowledge of osteopathy amongst runners is generally poor and that it does not appear to be the treatment of choice for individuals who have previously received physical therapies.

A questionnaire was designed and sent to a number of running clubs throughout the UK and distributed at a running club stand at the Great North Run event hosted in Newcastle upon Tyne. It was designed to target a wide-ranging cross-section of the running community namely gender, age and location within the UK (see appendix 1). It was sent to the secretary of twenty running clubs listed with the UK Athletics Association (UK A. A.) via email. It was stipulated that where possible it should be distributed amongst ten of their members for completion. A total of 200 questionnaires were sent out via email. It was also distributed at the Great North Run event. There were 132 returns. However, seven were returned having been incorrectly completed, three of which had not been saved before being returned by email. This left 125 questionnaires available for analysis.

Findings of the study revealed that the UK running community are very aware of osteopathy (94%) but may not necessarily recognise the value of osteopathy. Physiotherapy however, proved the most popular treatment of choice (63%) for those suffering musculoskeletal pain. It also highlighted the lack of awareness and understanding of the wide range of conditions osteopathy can treat. The results are presented using graphs, charts and percentages.

Kate Davidson

Comparative critique of the therapeutic relationship in medicine versus that in osteopathy

Introduction

The face-to-face meeting of practitioner and patient is not only a clinical encounter, it is a social one. While sophisticated technologies may be used for medical diagnosis and treatment, inter-personal communication is the primary tool by which the therapist and the patient exchange information. Studies have shown that patients base their evaluation of a practitioner's expertise on the quality of their inter-personal skills rather than their medical skills (Blanchard et al, 1983; Roberts, 1985). There has been considerable research which has demonstrated beneficial effects on patient outcomes from the social aspects of the clinical encounter (Stewart, 1984; Buller & Buller, 1987; Little et al, 2001; Kinnersley et al, 1999; Kaplan et al, 1989b). It is suggested therefore, that it is the synergism of therapeutic relationship and treatment that leads

to the overall effect of the consultation. In this light this human meeting is a vital facet of clinical practice. This critique aims to compare the osteopath-patient relationship with that of the doctor-patient relationship of orthodox biomedicine.

Jose Montero

Comparative Critique: physiotherapy & osteopathy

Today Osteopathy and Physiotherapy are two of the most prevalent manual therapies. Physiotherapy is practised within concepts of disease employed by the orthodox profession. It is a therapeutic procedure and does not challenge concepts of disease development within the orthodox system. Some physiotherapists may wish to challenge the view of some consultants, for example, as to how effective and useful physiotherapy intervention can be as a therapeutic tool (although the hierarchical arrangement of the orthodox healthcare system makes this difficult in many instances). Osteopathy, being a profession outside the orthodox system, does not have this constraint, and this makes it easier for it to proffer alternative systems, approaches and ideas (Stone 1999).

Clare Slater

Comparative Critique: physiotherapy & osteopathy

This comparative critique report uses the shoulder as a reference point to make a critical comparison of aspects of osteopathy and physiotherapy. It will be based on professional issues and approaches, for example, clinical reasoning, professional judgment and the osteopathic and physiotherapy management of patients.

The aim is to recognize the different professional issues and approaches between osteopathy and physiotherapy in the management of a specific area of the body, therefore provide a deeper insight into the differences and to be able to critically appraise the clinical reasoning and professional judgment within osteopathy and physiotherapy. Thus resulting in a clear interpretation of a comparative critique of the two professions, in order to achieve justification for current management methods with regards to the shoulder and to provide critical appraisal to potentially influence future practice.

This report has highlighted the importance of evidence-based practice and also by understanding why there is a breakdown in compensation can help the practitioner to treat the patient more holistically and successfully.

Oxford Brookes University

ANNUAL RESEARCH REPORT FROM OXFORD BROOKES UNIVERSITY

(2007-8)

Introduction

Despite all challenges associated with the implementation of an evidence-based approach to clinical and academic practice, there is evidence that osteopaths are now beginning to accept the importance of research for the development of the profession. At Oxford Brookes we are actively involved in supporting the development of research capacity in osteopathy. To this end, our long-term aim is to establish a centre of excellence in osteopathic research at Oxford Brookes University (OBU) that will contribute to the development of a sound research infrastructure within the osteopathic profession. The development of our research strategy has and continues to be informed at institutional level by the framework of the Research Strategy for the School of Health and Social Care, and at national and international level by the research needs of the profession. In order to effectively achieve our aim, our research activities will focus on the following four areas:

- Clinical efficacy studies which will contribute to solid evidence base demonstrating cost and clinical effectiveness of osteopathic care
- Mechanism of action studies investigating the underpinning science of osteopathic evaluation and treatment modalities
- Osteopathic education research
- Health policy research

Although research is fundamental for the continued growth and further acceptance of osteopathy as a mainstream profession, it is unrealistic to expect that all existing osteopaths and future graduates will be actively engaged in research activities. Notwithstanding this, we expect our academic and clinical staff to be able to use the latest evidence to inform their teaching and clinical practice. The integration of the teaching, learning and research nexus is however challenging. One possible solution is the development of a scholarship strategy for the osteopathic programme. As the majority of our clinical and osteopathic technique Associate Lecturers are fulltime clinicians, an important part of our future work will be focused on the development and implementation of this strategy. On a positive note, a number of our Associate Lecturers are already engaged with scholarly activities. These include for example debate on clinical and educational issues which occurs at organised journal clubs and staff development days. Further activities will include the development of online discussions on clinical, educational and evidence-based practice topics. It is anticipated that the development and implementation of scholarship strategy will further contribute to the establishment of a strong research culture at OBU in particular and within the profession in general.

Institutional Progress – 2007/8

Research development for the Osteopathy programme has progressed well within the framework of the Research Strategy for the School of Health and Social Care.

During the academic year 2007/8 there were 6 members of the osteopathy team with or pursuing a doctoral degree; 1 has a PhD, 3 are doing PhDs and another 2 are developing PhD proposals with the assistance of Dr Shamley.

A number of potential projects have been explored with Associate Lecturers but for several reasons have not been deemed feasible. Challenges include for example difficulties in taking away from practice. Alternative projects are currently being explored and are detailed in our action plan. However, it is worth noting that the development of research capacity and output in a profession that depends on private practice for a living is extremely difficult. It would therefore be foolhardy to expect this process to occur with the same speed as one linked to an NHS system.

Most progress in this profession will come from the new generation of students receiving an evidence based education and from the few clinicians with a leaning towards research. With this in mind the efforts of the last year have been focussed on exploratory studies and systematic reviews carried out by dissertation students working as research assistants for Dr Shamley and Jorge Esteves and the development of PhD topics for a few key staff. We have had a most successful year of dissertations with the best student projects applying to present at the 5th Annual Chiropractic Osteopathy Physiotherapy Research Conference in Bournemouth in October 2008, and the anticipation of at least 3 publishable articles.

Research Active staff

Dr D Shamley

- Shoulder kinematics and muscle activity following treatment for breast cancer.
- A randomized control trial to determine the effect of a DVD-based exercise programme to prevent shoulder morbidity following treatment for breast cancer.
- A randomized control trial to determine the effect of a shoulder conserving exercise programme on the risk factors for heart disease in spinal cord injured patients.
- Current outcome measures for determining mobility in spinal cord injured patients.

Jorge Esteves –Registered for a PhD

- PhD project: Critical Neuropsychological Factors in the Development of Expertise in Osteopathic Medicine.
- Investigating osteopath's attitudes and practices with respect to referral and inter-professional collaboration.
- An exploratory study of patient expectations of osteopathic treatment.
- Survey of awareness levels of osteopathy.
- Did publication of the GOSC's new Code of Practice in May 2005 alter clinical practice for the treatment of dysfunctions involving the cervical spine?
- An exploration of the language used to describe a cervical spine manipulation (HVT) and the effect of this on consent to treatment.
- A comparative study of 3 lumbar supports and their effectiveness as adjuvant to osteopathic care in reducing low back pain: a pilot study.
- Is There a Relationship Between the Presence of Cervico-Thoracic Somatic Dysfunction, Cervico-Thoracic Movements, Deep Neck Flexor Performance and a Computer-Based Work Setting? An Exploratory Study in Asymptomatic Participants.
- Emotional processing and its contribution to lower back pain.
- A pilot clinical trial studying the effects of three routine interventions: spinal manipulative therapy; soft tissue compression and McKenzie forward flexion

exercises in patients with chronic low back pain and restricted lumbar forward flexion.

Pedro Escudeiro—Registered for a PhD

- PhD research project - Development of an Objective and Practical Upper Limb Assessment Instrument to Study Motor Behaviours in Movement Disorders.

Laurence Kirk - Registered for PhD

- Currently in year 1. Project to be developed in year 3.

Mary O'Leary—Registered for a MSc

- A systematic review of the reported incidence of adverse events for cervical HVT.

Undergraduate dissertation projects

- Attitudes and practices of osteopaths with respect to inter-professional and intra-professional referral: a pilot study.
- An exploratory study of patient expectations of osteopathic treatment.
- The placebo effect in manual therapy: A systematic review.
- The influence of anaerobic fatigue on plantar pressure during gait: a pilot study.
- An evaluation into the effectiveness of manual therapy in treating temporomandibular joint dysfunction (TMD): A systematic review.
- How does spinal manipulation produce hypoalgesia? A narrative review.
- A pilot clinical trial studying the effects of three routine interventions: Spinal manipulative treatment; soft tissue compression and McKenzie forward flexion exercises in patients with chronic low back pain and restricted lumbar forward flexion.

External Progress

OBU continues to host the National Council for Osteopathic Research (NCOR) Oxford Research Hub. This, like most of the other hubs, has experienced dwindling numbers of members. Most of the sessions have been focussed on the development and piloting of the Standardised Data Collection Tool in conjunction with NCOR. However in an effort to respond to the call for 'doing research' by the members, the recent meetings have focussed on the development of a multi-practice trial to test the efficacy of osteopathy for shoulder impingement syndrome. Each member participating will then agree to their practice being a recruitment and treatment centre. The plan of action and current progress for this project is outlined in our research development action plan progress and five-year action plan.

Jorge Esteves continues to be member of NCOR on behalf of OBU who also hosted the last NCOR Strategic Day in July 2008. During this day it was agreed that collaboration between institutions is crucial to the development of research in the profession.

Jorge Esteves was part of the organising committees for the Osteopathic Research Conference, Osteopathy 2008, organised by the General Osteopathic Council on the 01st February 2008 and Osteopathic Learning and Practice – a global future, organised by the General Osteopathic Council and British School of Osteopathy on the 03rd February 2008. Additionally, Jorge Esteves was invited to chair platform presentations at the Osteopathic Learning and Practice conference and the International Conference on Advances in Osteopathic Research, organised by the Lake Erie College of Osteopathic Medicine and British College of Osteopathic Medicine on the 05-07th September 2008 in Bradenton, Florida, USA. Recently, Jorge Esteves has also been invited to be the keynote speaker at the College of Osteopaths (COET) research conference.

Collaborations

The osteopathy programme is actively developing collaborations with Osteopathic Education Institutions (OElS) and other health care professions. Current collaborations include:

- A randomized control trial to determine the effect of a shoulder conserving exercise programme on the risk factors for heart disease in spinal cord injured patients
 - Churchill Hospital, Oxford and St Bartholomew's Hospital, London.
 - John Radcliffe Hospital, Oxford
- A randomized control trial to determine the effect of a shoulder conserving exercise programme on the risk factors for heart disease in spinal cord injured patients.
 - Stoke Mandeville Hospital, Buckinghamshire.
- The effectiveness of osteopathic management for Otitis Media in reducing the waiting list for grommets
 - Radcliffe Infirmary and John Radcliffe Hospital, Oxford.
- Jorge Esteves is a member of the steering group for the development of the Standardised Data Collection tool
- OBU are supporting NCOR in the development of a Delphi study to determine the research priorities for the profession
- Professor Charles Spence
 - Crossmodal Research Lab, Experimental Psychology, University of Oxford
- Dr Helen Dawes
 - Movement Science Group, School of Life Sciences, OBU
- Professor Roger Baker
 - Dorset Research & Development Support Unit
- Professor Raymond Lee
 - School of Human and Life Sciences, Roehampton University
- Professor Bernard Charlin
 - Department of Surgery at the University of Montreal

Staff Research Output for year 2007/08

Conference presentations:

Dr Delva Shamley:

Shamley, D (2007). *Shoulder kinematics and muscle activity following treatment for breast cancer; implications for treatment.* World Congress of Physical Therapy, Vancouver, Canada.

Shamley D., Srinaganathan R., Oskrochi R., Lascurain-Aguirrebena I., Sugden E. (2008). *Altered 3-dimensional kinematics of the shoulder following treatment for breast cancer.* European Congress on Physical Medicine & Rehabilitation, 03rd-06th June 2008 Brugge, Belgium.

Reilly K., Barker K., **Shamley D.** (2008). *Should systematic examination of the foot and ankle complex be part of physiotherapy assessment of medial compartment osteoarthritis of the knee and hip osteoarthritis?* European Congress on Physical Medicine & Rehabilitation, 03rd-06th June 2008 Brugge, Belgium.

Jorge Esteves:

Esteves J, Geake J, Spence C (2007). *How do osteopaths use their senses in an osteopathic clinical examination?* Poster Presentation at AMEE 2007 Association for Medical Education in Europe Conference 25-29th August 2007. Trondheim, Norway.

Esteves J, Geake J, Spence C (2007). *How do osteopaths use their senses in an osteopathic clinical examination?* Poster Presentation at Oxford Autumn School in Cognitive Neuroscience, University of Oxford, September. Oxford, UK.

Esteves J, Spence C and Geake, J (2007). *How do osteopaths use their senses in an osteopathic clinical examination?* Poster Presentation at Body Representation Workshop, University of Trento, October 2007. Rovereto, Italy.

Esteves J, Spence C and Geake, J (2008). *Investigating multisensory integration in an osteopathic clinical examination setting.* Invited Presentation at Osteopathy 2008, Osteopathic Research Conference, General Osteopathic Council, 01st February 2008. London, UK.

Esteves J, Geake J, Spence C (2008). *Knowledge representation, causality and analogical reasoning in osteopathic medicine: results from a lexical decision-task.* Platform Presentation at Osteopathy 2008, Osteopathic learning and practice – a global future, General Osteopathic Council, 03rd February 2008. London, UK.

Esteves J, Spence C and Geake, J (2008). *Investigating multisensory integration in an osteopathic clinical examination setting.* Platform Presentation at School of Health and Social Care, Oxford Brookes University, 06th June 2008. Oxford, UK.

Esteves J, Spence C and Geake, J (2008). *Knowledge representation, causality and analogical reasoning in osteopathic medicine.* Platform Presentation at School of Health and Social Care, Oxford Brookes University, 06th June 2008. Oxford, UK.

Esteves J, Geake J, Spence C (2008). *Investigating knowledge representation, causality and analogical reasoning in osteopathic medicine.* Platform Presentation at AMEE 2008 Association for Medical Education in Europe Conference 30th August to 3rd September 2008. Prague, Czech Republic.

Esteves J, Spence C and Geake, J (2008). *Investigating multisensory integration in an osteopathic clinical examination setting.* Poster Presentation at International Multisensory Research Forum, University of Hamburg, 16-19th July 2008. Hamburg, Germany.

Esteves J, Spence C and Geake, J (2008). *Multisensory integration in an osteopathic clinical examination setting.* Platform Presentation at International Conference on Advances in Osteopathic Research, Lake Erie College of Osteopathic Medicine, 05-07th September 2008. Florida, USA.

Esteves J, Spence C and Geake, J (2008). *Investigating multisensory integration in an osteopathic clinical examination setting.* Poster Presentation at Oxford Autumn School in Cognitive Neuroscience, University of Oxford, September. Oxford, UK

Peer Reviewed Publications/Submissions

Shamley DR, Srinaganathan R, Weatherall R, Oskrochi R, Watson M, Ostlere S, Sugden E. (2007). *Changes in shoulder muscle size and activity following treatment for breast cancer.* Breast Cancer Research and Treatment, Vol 106 (1) Nov 2007.

Dawson, J. **Shamley, D.**, Jamous M. A. (2008). *A structured review of outcome measures used for the assessment of rehabilitation interventions for spinal cord injury.* Spinal Cord. 2008 Jun 3.

Shamley D, Oskrochi R, Srinaganathan R, Lascurain-Aguirrebena I, Sugden E. (submitted). *Altered 3 – dimensional kinematics of the shoulder complex following treatment for breast Cancer.*

Esteves JE, Geake J, Spence C (submitted). *Knowledge representation, causality and analogical reasoning in osteopathic medicine: preliminary results from an exploratory study.*

Esteves JE, Geake J, Spence C (submitted). *Investigating multisensory integration in an osteopathic clinical examination setting.*

External Consultancy

Dr Delva Shamley

Reviewer for Canadian Journal of Physiotherapy; Breast Cancer Research and Treatment; Elsevier academic textbooks

Jorge Esteves

Member of the International Advisory Board of International Journal of Osteopathic Medicine. Reviewer for Manual Therapy; International Journal of Osteopathic Medicine; Brookes e-Journal of Teaching and Learning; Elsevier academic textbooks.

FINANCIAL STATEMENT

1st October, 2007 to 30th September, 2008

INCOME

Total income £39,470.00

EXPENDITURE

Salaries

Administration Support (S Mathias) £4,324.00
Research Officer (C Fawkes) £32,327.00

Computer Equipment

PC (S Mathias)

Travel Costs

GOsC Conferences and NCOR business £5,342.00

Furniture

Book cases, reception chairs and table (office move) £930.00

Computer equipment

Printer £749.00

Telephone and postage

£3,000.00

TOTAL EXPENDITURE

£46,672.00

DEFICIT (30th September 2008)

- **£7,202.00***

Accumulative carry forward (up to 30th September 2008) £22,354.00

Projected expenditure (Oct, Nov, Dec 2008)

- Salary (Carol Fawkes) £9,000.00
- Salary (Shirly Mathias) £1,200.00
- Travel costs for hubs and NCOR meetings £1,000.00

Projected accumulative underspend (over the 5 1/2 year period) £11,154.00**

**The deficit can be explained by an increase in staff costs, substantial travel and subsistence costs incurred during the GOsC conference in January 2008 and the NCOR office move within the CRC early in 2008.*

***Despite a 5 month extension of the project there is a projected underspend of over £11,000. Carol Fawkes was appointed six months after NCOR began and there is a time lag between the budget and her salary*

Background to the development of the National Council for Osteopathic Research (NCOR) and the draft strategic plan for osteopathic research.

The National Council for Osteopathic Research was constituted in 2003 in order to explore and assure the place that osteopathy has to play in Healthcare. The Council was established by the General Osteopathic Council, the British Osteopathic Association and all the recognised teaching colleges within the United Kingdom.

A chairman for the National Council for Osteopathic Research was appointed on 1st March, 2003 (Professor Ann Moore). Briefly the role of Chairman includes the following:

1. Chair and lead meetings of NCOR.
2. Work with stakeholders to establish the research mission and objectives of NCOR.
3. Lead NCOR towards achieving its mission.
4. Facilitate contact and liaise with funding bodies, government departments, foundations, Healthcare councils, research councils and institutes of Higher Education.

The National Council for Osteopathic Research has met regularly since March to discuss its operation but its first major task has been to produce a draft five-year strategic plan for the development of osteopathic research within the United Kingdom. Rather than a prescriptive and directive plan, the strategy constitutes a framework within which osteopathic research can develop and flourish.

The Development of the Strategic Plan

In order to seek views on research from the osteopathic profession a questionnaire (see appendix 1) was circulated to regional and special interest groups as well as members of the National Council for Osteopathic Research. The responses to the questionnaire were analysed descriptively and thematically. A summary is to be found in Appendix 3. The responses to the questionnaire were used to inform a Strategic Planning Event which took place in October 2003. The participants in the Strategic Planning Event are listed in Appendix 4.

The programme for the event and worksheets used throughout the two days are to be found in Appendix 5.

Aims of the Strategic Planning Event

The Strategic Planning Event aimed to achieve the following:

1. To establish a vision statement summarising what it is hoped can be achieved in five years in terms of osteopathic research development.
2. To establish a set of mission statements for the National Council for Osteopathic Research which will contribute to the attainment of the vision for the future.
3. To identify five main strategic areas for development by the National Council for Osteopathic Research.
4. To identify goals for each of the identified strategic areas.
5. To develop action plans for each of the identified goals.

A further aim was to identify any infrastructure needing to be put in place in order to support the action plans described.

Appendix

The Strategy

Vision Statement for osteopathic research for the next five years

The development of a profession-wide research culture which is inclusive, robust, credible, has national and increasingly international impact and benefits for osteopathic teaching, learning and patient care.

Mission Statements

1. To establish and develop a comprehensive information resource for osteopathic research in order to promote a mutual research dialogue within the osteopathic profession and with other related professions.
2. To create a forum that will develop and nurture a pan-professional osteopathic research culture, facilitate linkage of research to practice and identify national research priorities.
3. To develop a research governance framework and code of good practice in research for osteopathy which links with frameworks already developed by the National Health Service and the Research Funding Councils.
4. To increase and improve the profile of osteopathic research at national and international levels with policy makers, HEIs, the NHS and fund-holders.
5. To increase collaboration in research amongst osteopathic providers and HEIs nationally and with like minded researchers internationally to improve the teaching, learning and research nexus and the quality of osteopathic research generally.
6. To improve the quality and quantity of research outputs.
7. To develop appropriate channels for research dissemination e.g. websites, journals, etc.
8. To identify and nurture sources of funding for research activities.

Constitution of National Council for Osteopathic Research

Chair	Professor Ann Moore
The British College of Osteopathic Medicine (BCOM)	Dr Nick Walters Succeeded in May, 2005 by Dr Heather Hinckley
British Osteopathic Association (BOA)	Mr Michael Watson
The British School of Osteopathy (BSO)	Ms Kate Nash, succeeded in June, 2005 by Dr Martin Collins; succeeded in 2006 by Mr Steven Vogel, Head of Research
The College of Osteopaths (COET)	Dr Janine Leach
The European School of Osteopathy	Dr Peter Collins succeeded in March, 2005 by Mrs Brenda Mullinger
General Osteopathic Council (GOsC)	Ms Brigid Tucker Mr Vince Cullen
The London College of Osteopathic Medicine	Dr Roderic MacDonald
The London School of Osteopathy	Mr Robin Kirk (represented since April, 2006 by Ms Dawn Limbert).
NHS Practitioners' Representative	Mr Martin Pendry
Oxford Brookes University	Mr Jorge Esteves
Private Practitioners' Representative	Mr Tim McClune
Surrey Institute of Osteopathic Medicine (SIOM)	Ms Reena Joshi
Research Officer	Carol Fawkes