

**REPORT FROM THE 2004 RECIPIENT CHRISTINE AND TJ MARTIN AWARD:
Dr Kerrie Sanders**

Synopsis

Study centre visits:

1. Dr Eugene McCloskey and Prof John Kanis,
Centre for Metabolic Bone Disease (WHO Collaborating Centre)
University of Sheffield Medical School, Sheffield, UK
2. Prof Olof Johnell
Department of Orthopaedics,
Malmo General Hospital, Malmo, Sweden
3. Dr A Oden; Statistician
Solberg, Romelanda, Sweden
4. Prof Huibert Pols and Dr AG Uitterlinden
The Rotterdam Study
Eramus Medical Centre and University Hospital, Rotterdam
The Netherlands

Conference: attendance and presentation

1. Tenth National Osteoporosis Society conference; Harrogate, UK.

Report

The travel opportunities afforded to me by the Christine and TJ Martin Travel Award helped establish valuable collaborative work for the Geelong Osteoporosis Study and also gave me a huge morale boost to continue a career in research. The experience helped me to gain a worldwide perspective on the research field of osteoporosis. Through my visits to several study centres in Europe and the UK I developed a sense of camaraderie and a united 'front' in the battle against fractures and osteoporosis. The researchers, although well aware of work done in Australia, were eager to know more. The study centre visits were as much about promoting osteoporotic research in Australia as they were about me gaining knowledge and learning from their experiences. I hope I was a worthy ambassador.

My initial study visit was to the Orthopaedics department, Malmo General Hospital, Sweden. *Professor Olof Johnell* is a well-known collaborator with many European and UK study groups. He is a chief investigator in several continuing population-based studies using the populations of Malmo (similar population size to Geelong) and Gothenburg. His expertise in the osteoporosis field includes genetics, epidemiology and cost analysis although our discourse highlighted a common interest in the epidemiology of diet, cancer and bone. He has published extensively on the relationship between bone mineral density and other predictors of fracture. Along with Prof John Kanis, he is an integral team member on the WHO collaboration to establish an international model in the use of clinical risk factors to enhance the performance of BMD in the prediction of osteoporotic fractures. My impression is that the European osteoporosis research groups have more established links of collaboration than similar Australian groups. The significance of the findings that continue to emerge from the landmark studies of the European Vertebral Osteoporosis Study that later became known as the European Prospective Osteoporosis Study (EVOS/EPOS) suggest that Australian research could contribute more globally through joint publications of our regional studies.

From Malmo it was a three-hour train trip heading northwest to Gothenburg. Accommodation options were limited as my visit coincided with a medico conference of 10,000 registrants! Prior to the visit I had been corresponding via email with Dr

Helena Johansson, a statistician who works for *Dr Oden*. My command of foreign languages is unfortunately abysmal but thankfully Helena's English was quite good. Our emails regarding the Geelong database had included her wish for it to snow while I was in Gothenburg. As so often happens, it snowed before and after my visit but not during my stay. Nevertheless the beauty of our location took me aback. Dr Oden is a widely published statistician in private practice. He has an ongoing contract with the WHO collaborating group led by Prof John Kanis. We conducted our work in Prof Oden's home office. He lives about one hour's drive from the city of Gothenburg. His house is set in a sparsely populated area of Sweden where, during winter the locals ski to the nearby shops. We sat at his table having hot soup listening to the sound of a small creek flowing outside his front door. Prof Oden was overly concerned that I would not add to the fracture statistics by slipping on his wet front lawn. They keep ski poles by the garage to assist the walk from the drive to the door. Despite the disparities of our work environments we had a lot in common. Prof Oden has worked on a vast array of clinical research projects and is extremely competent in identifying the objectives and the possible clinical confounders affecting statistical analysis.

The next stop on my travel agenda was the *National Osteoporosis Society conference in Harrogate* (near Leeds) in the UK. There I met with Prof John Kanis and was introduced to Dr Eugene McCloskey from the University of Sheffield's Centre for Metabolic Bone Diseases. During his keynote presentation John Kanis stirred up the audience with a flippant dismissal of the relationship between falls and fractures. He appeared to be using Ego's tactics to stimulant the audience into a heated discussion. It worked! The NOS conference was quite different to ASBMR meetings I have attended. The 'national' status of the Harrogate NOS conference meant there were few internationals attendees. While this limited the range of presentations it facilitated a very friendly and relaxed interaction between presenters and the audience. The program was well planned with mid afternoon "wake me up" sessions consisting of panel debates conducted along the lines of a Geoffrey Robertson 'Hypotheticals' television debate. New findings on metabolic bone research were cleverly portrayed as quiz questions based around a set of disparate photos of celebrities, the royal family and a spineless lizard in a "spot the difference" competition. Prof Michael Holick's presentation on Vitamin D although stopping short of the most recent study findings, was a highly entertaining summary of the clinical history of vitamin D leading up to its present day status as a potentially important modifiable risk factor. My presentation on the "Anti-fracture treatment of nursing home and hostel residents is cost-effective" was well received and won a PAM award. Thanks to Servier for their generous sponsorship of this award. Prof Cyrus Cooper, as the incoming President of the NOS, was particularly welcoming of my representation of the ANZBMS and immediately offered to host a visit to his MRC Epidemiology Resource Centre in Southampton.

This year I have commenced a postgraduate course in health economics. While I had been considering this for some time the decision was made after attending a workshop at the Harrogate conference entitled 'Health Economics versus clinical practice: did NICE get it right? (NICE = National Institute for Clinical Excellence). With health economics on one side and clinicians on the other, a rather heated discussion evolved. The health economist obviously had extensive experience in health economics and prescription benefit schemes but had only received a crash course in clinical practice

of osteoporotic patients. The professionals arguing for a change in the eligibility criteria for antiresorptive therapy had a wealth of experience in clinical practice and bone research but the decision for NICE regulations ultimately lay with the economist. While clinician's discussion around clinical practice issues was well informed, members of the audience offered little insight into the economic problem of maximising the marginal benefit of each and every dollar potentially spent on osteoporotic therapy. The need to balance health economic issues with clinical practice is relevant to most ageing populations including Australia. The ability to be able to speak both 'languages' would seem like a big advantage!

From the very pretty surroundings of Harrogate it was a fairly short train journey to *Dr Eugene McCloskey's department in Sheffield*. The department has many ongoing studies on arthritis and osteoporosis. In a unique study the Sheffield group have a randomly selected cohort of 5,600 women aged 70+ years who were initially assessed for skeletal status between 1993 and 1999. The women were randomly allocated to treatment with placebo or the bisphosphonate Clodronate. Femoral neck BMD was measured in over 2,150 participants. The study had two buses that collected these older women each morning between 7.30 and 8.30am. After the obligatory cup of tea upon arrival, the women were assessed using a variety of tests including postural sway, falls frequency, heel ultrasound, Hologic BMD and questionnaires. The women were driven home by 3pm but were not informed as to what disease/disorder was being investigated. The investigators found the common bias in participation weighted towards the more healthy women with the prospective fracture rate only 50% of the expected rate. Importantly the women were assessed for baseline vertebral fractures and prospectively followed. Dr McCloskey's group have subsequently published widely on the epidemiology of vertebral fractures from this valuable dataset.

My final study visit was to the Rotterdam Study group located within the Erasmus Medical Centre and Erasmus University Rotterdam. There I met with *Prof Hubert Pols, Head of department; Dr Uitterlinden* who specialises in bone genetics and Dr Rivadeneira Ramirez, a medical practitioner from Columbia who had recently completed his PhD on genetics epidemiology of osteoporosis. Within the Erasmus Medical Centre there are several large studies investigating a variety of chronic diseases including osteoporosis, ocular macular degeneration and coronary heart disease. The Rotterdam Study commenced in 1990 and is an ongoing prospective cohort study that aims to examine and follow up all residents aged 55+ years living in Ommoord, a district of Rotterdam. Medical events including fractures are ascertained through an automatic link with general practitioner computer systems, hospital admission data and centralised pharmacy data. With a 78% response rate, there are almost 8,000 residents involved in the study. Initially all participants were visited at home (8,000!) for signing the consent and completion of the study questionnaire. This was followed by two half-day study visits to the hospital that included pathology and hip BMD. The Erasmus Rucphen Family (ERF) Study is a separate study that is part of the GRIP program – Genetic Research in Isolated Populations. Over 2,500 people have been invited to participate. These people are all descendants of Catholic families living within eight adjacent villages in The Netherlands who were baptised in the community church between 1890 and 1900. Phenotyping on this group of participants begun in mid 2002 and will be completed this year. The ERF study visit included multi-site DEXA scans, anthropometrics, muscle strength, physical activity

estimates and medication use. The third initiative multi-disease study in Rotterdam is a longitudinal study involving 10,000 invitees. All pregnant women residing within a study region are invited to participate at 20 weeks gestation. Initial tests at this stage include ultrasound, pathology and questionnaire data. It is anticipated that these infants will be followed throughout their entire lives from 'in utero' to death. Bone parameters are measured neonatally and will be repeated at a specific time periods during their life. In conjunction with DNA profiles and phenotyping these assessments will be related to bone status and fracture risk later in life.

It is difficult to fully convey the huge advantage I gained from visiting these groups 'on site'. Although there is no disputing the value of conferences, the opportunity of discussing work without the time constraints of a conference programme, to observe other facilities and equipment, to meet other staff in the department and to observe the day-to-day procedure of each research project, is an invaluable opportunity that I am sure will reap many benefits in the future. In the short term the direct results of this trip include a collaborative manuscript currently in draft form, the PAM award from NOS and my health economics study. I am extremely grateful to *Merck, Sharpe and Dohme* for the sponsorship of this travel award. Prof Jack Martin is a medical scientist that I hold in huge regard and so feel especially privileged to the 2004 recipient of the Christine and TJ Martin Travel Award. My sincere thanks are also extended to the *ANZBMS committee* who continue to offer such fantastic opportunities to bone researchers from Australia and New Zealand. I hope that this report adequately conveys the immense professional satisfaction and personal growth I gained from this travel opportunity.