

# Undergraduate Research Student Scholarships: Summer 2007

## Gemma Codling      Hanna Pearce      Charlotte Stirling-Reed

### Clinical Science Research with the Movement Science Group

- We :-**
- attended MSG seminars, teach-ins and Journal Clubs
  - visited clinics and hospital departments, interviewed patients
  - helped MSG postgraduates setting up new experiments
  - (GC/HP) worked with OBU CLEAR Rehabilitation Unit staff

**Gemma:-**

#### Effective exercise programs for amputees

- Amputees have low levels of physical fitness and fitness and high mortality/morbidity rates.
- Given their particular health problems, they are a patient group that would specially benefit from exercise.
- The social benefits of increased mobility would also be very important.
- To date there have been no rigorous studies on exercise programs specifically designed for this patient group, so we are tailoring programs specifically for them.



*"This project is in its early stages, and I started work in the Nuffield Orthopaedic Centre, meeting /interviewing patients and helping clinicians and support staff. Working in a clinical environment was (and still is) extremely satisfying, and has definitely refined and extended my transferable skills profile; there's no substitute for a 'real-world' work setting. My academic interests in cardiac rehabilitation are proving to be of real use, and I definitely see my career as being in clinical rehabilitation – this Scholarship has really boosted my CV."*

**Hanna:-**

#### Muscle spasticity assessment:

- Spasticity is a common symptom of neuromuscular diseases, occurring in 85% of MS, 70% of spinal cord injury and 35% of stroke patients.
- The increased rigidity of the affected muscles is a severe problem for rehabilitation and thus regaining functional mobility.
- Clinical assessment of spasticity is essentially a subjective process involving the practitioner's perception of the muscle's resistance to stretch; a scientific approach is long overdue.



*"I started working this summer on the MSG LIFE Project, which is designed to improve physical activity levels in neuromuscular populations. This gave me a good overview of clinical research and the interpersonal skills needed to encourage and reassure patients on the study."*

*"My personal interest in movement problems in cerebral palsy then led me on to assisting with analysis of MSG datasets of controlled muscle stretching experiments; hopefully the results will lead to more objective/accurate assessment. I've really enjoyed it."*

**Charlotte:-**

#### Improving exercise tolerance in MS

- People with multiple sclerosis (MS) have similar problems to other patient groups with exercise participation: social and physical barriers (perceived and actual) greatly reduce take-up.
- In addition, hydration and temperature control issues present additional problems for MS patients.
- Helping to find ways round these problems could greatly increase their physical activity levels, with consequent benefits to mobility and general health.



*"Patients with MS can present with a variety of mobility problems, and thus present a spectrum of barriers to increasing their daily activity levels. I spent the early part of the summer visiting a number of MS Centres, and gathered a large amount of background material on these issues, both from patients and support staff."*

*"My interest in this project comes from my academic interests in nutrition and fluid balance, and it's really satisfying to be able to apply my academic work in a clinical setting."*

*"Well worth doing."*

**Supervisors:- GC – Dr Helen Dawes; HP – Dr Ken Howells; C S-R – Dr Charlie Simpson**

These activities formed part of the students' work for U14699 Human Biosciences Project, and the CLEAR work done by Gemma and Hanna will count towards their U14623 Work Experience coursework

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Movement Science Group

2004 project student:  
currently reading  
medicine  
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