

Optimal Performance Limited (OPL)



Health and Fitness for the Armed Forces and Emergency Services

OPL in the UK – Company introduction and past projects

Background

- OPL was established in 1996 to serve the UK Ministry of Defence
- The team comprises 15 experts in fitness, nutrition and health who specialise in improving the health and performance of the Armed Forces and Emergency Services
- We have strong links with top UK universities and industry partners providing access to international experts and extra facilities such as laboratories and libraries.



Carry out complete health and fitness assessments



Improve selection and training of personnel



Maximise the quality of Officers completing training

Selection of Personnel – Ensuring the fitness of the person meets the physical demands of the job enhances operational effectiveness, reduces cost, and improves fitness, motivation and health

- Designed fitness tests involving work tasks for the British Armed Forces:
 - Recruits entering Phase 1 Army Training (Physical Selection Standards: Recruits)
 - Territorial Army selection and annual tests
 - Royal Navy selection tests
 - Royal Air Force pre-deployment tests
- Designed fitness tests involving work tasks for entry into the UK Emergency Services:
 - The UK Fire and Rescue Service
 - The Police Service of Northern Ireland
 - The Ambulance Service.



A test of lifting strength for the British Army



A test of carrying equipment for the UK Fire and Rescue Service



A test of digging for the Royal Air Force

Training of Personnel – Investigating the content, intensity and progression of training to ensure both military objectives and international guidelines for fitness and health are met

- Investigated and improved all Phase 1 British Army training courses:
 - Officer's Commissioning Course at the Royal Military Academy Sandhurst
 - Common Military Syllabus for Recruits at the Army Training Centres
 - Infantry Foot Guards course at the Infantry Training Centre
 - Combined Parachute Regiment Training Syllabus at the Infantry Training Centre
- Enhanced individual and collective Phase 2 and 3 British Army training and operations:
 - Assessed the energy needs of the Section Commanders' Battle Course
 - Evaluated soldiers assessing anti-explosive equipment in Northern Ireland
 - Investigated the physical limits of bomb disposal teams
- Improved the UK's Emergency Services' ability to overcome the challenges of their normal jobs and those of CBRN incidents (Chemical, Biological, Radiological and Nuclear).



Investigating limitations of fire-fighters and improving performance



Optimising the content and intensity of British Army training



Extending work capacity during decontamination of CBRN casualties

Other Areas of Expertise

- Optimising safe work-to-rest periods with Emergency Service personnel
- Identification of risk factors for injury in the British Army to inform future training strategy
- Body temperature measurement to reduce heat illness in soldiers and fire-fighters
- Assessment of body size, health and fitness to identify injury risk and to inform training design
- Measurement of physical activity and energy expenditure to determine the intensity and progression of training programmes
- Dietary analysis to optimise fluid and food provision for mental and physical performance.



Investigating the demands of rescuing casualties from collapsed buildings



Conducting trials of new respirators with the British Army



Weighing food to determine energy intake of military recruits

OPL in the UAE – Helping to prepare the UAE Armed Forces by improving health and fitness

Background

- GHQ awarded OPL a contract to carry out a health and nutrition study of students at the Military High School (MHS) in 2007
- A team of OPL scientists worked with 30 students measuring:
 - Diet; body size; fitness; activity (movement); body temperature; health knowledge
- OPL produced recommendations to improve the health and well-being of students and, therefore, the calibre of future officers of the UAE Armed Forces
- The outcome was the opening at the MHS of the Health and Sports Medicine Centre (HSMC) in 2008, currently lead by OPL staff.



The OPL team of scientists at the MHS in 2007



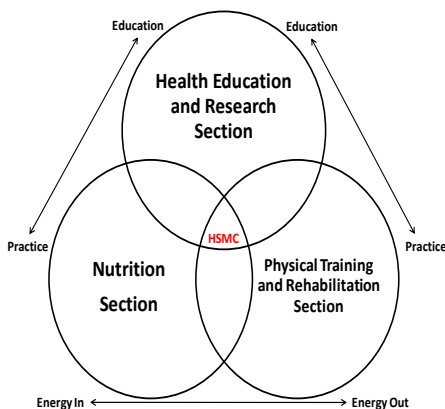
Analysing urine samples for water content



Weighing food to assess the diets of MHS Students

The Health and Sports Medicine Centre at the MHS

- The mission: to improve the health, fitness and well-being of all students
- The HSMC sections: Nutrition; Health Education and Research; Physical Education and Training
- The HSMC staff: 7 OPL experts, 7 local Emirati dieticians and technical support staff and one MCO remedial instructor
- The HSMC programme: design and implementation of a healthy food policy; weight management clinics; design and quality control of the PT programme; rehabilitation from injury; health campaigns; design of a health and fitness syllabus; regular health assessments of all students.



The three sections that form the HSMC team



Rehabilitation of injured MHS students



Involving staff in health campaigns

HSMC Progress at the MHS – Year 1 results are very encouraging:

- 76% of students improved their run time, 74% improved their press up score and 74% improved their sit up score
- All priority student groups (i.e. those overweight, obese or underweight) made favourable changes in body size
- The food and drink provision has improved
- All students are undertaking regular health and nutrition education and participate in health promotion campaigns
- Some remarkable successes have been achieved:



- Eighteen year old student Eisa Jenaibi lost 14 kg over the first two terms. When asked about the help he received from the HSMC, he said:

“It was useful to be weighed regularly and they gave me information on healthy eating that I will take with me after leaving the MHS”

- Mr Khalifa, a retired Emirati Officer who acts as a mentor to students at the school, gave this summary of how the HSMC helped him lose 9 kg over 3 months:

“They gave me a diet programme to follow, good exercise and healthy eating advice and a regular check-up every two weeks”



The Walking Campaign – one of many health promotions at the MHS



Top – Fitness testing at the MHS
Bottom – A weight management clinic with an MHS student and Emirati dietician

The Future

- Baseline studies have recently been completed by OPL at five of the UAE Armed Forces Officer training establishments:
 - Mahawi Military University; Khalifa Bin Zayed Air College; Zayed Military College Commissioning Course; Joint Services Officer Cadet Course; Naval College
- The next stage is to expand the HSMC's services to these training establishments early in 2010 so that Officer Cadets can benefit from the expertise provided by the HSMC
- Additional expansion may include the Recruit Schools and the wider Armed Forces.