Terrestrial Rescuer fitness

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– Time to hospital is important for the casualty’s outcome; rescuer fitness is a component of this
– The quality of work is ‘better’ the fitter the operator
– Infrequent heavy physical exertion is associated with sudden death; fitter persons have some protection
– So, should we define a minimum fitness standard for terrestrial mountain rescuers?
Aims

– Determine the aerobic fitness of rescuers – \( VO_2 \text{max} \)
– Measure the work during a simulated rescue and compare it with other emergency services
– Can heart rates be used as a marker of work?

Collaboration with School of Sport, Health and Exercise Sciences, Bangor University
Funding from Mountain Rescue England & Wales
Determine the aerobic fitness of rescuers – \( \text{VO}_2 \max \)

Average age 46 ± 9 yrs (team 45 yr); \( \text{VO}_2 \max \) 52.6 ± 4

Compared with naval firefighters (52; 26 yr old); city ambulance (37; 45 yr old); Lance Armstrong (84; 30 yr old)
Measure the work during a simulated rescue
Results

ASCENT

DESCENT

SLEDGE

CARRY

SLEDGE

CARRY
Typical load was 17% of body mass
HR > 154 for 80% of ascent (6% in descent)
114 min of exertion compared with < 25 min naval firefighters
Yes

Heart rates be used as a marker of work?

- Study real callouts
- Greater numbers
- Different kit/loads
- Different types of rescue
- Different weather
Should there be a minimum standard of fitness?

- Self-selection
- Political rather than medical decision