Hyperbaric oxygen therapy for delayed onset muscle soreness and closed soft tissue injury

NICE has developed the Cochrane Quality and Productivity (QP) topics to help the NHS identify practices which could be significantly reduced or stopped completely, releasing cash and/or resources without negatively affecting the quality of NHS care. Each topic has been derived from a Cochrane systematic review that has concluded that the evidence shows that the practice is harmful or ineffective and should not be used, or that there is insufficient evidence to support widespread use of the practice.

Summary

**NICE summary of review conclusions**

Evidence shows that the harms of hyperbaric oxygen therapy on ankle sprain or acute knee ligament injury, or on experimentally induced delayed-onset muscle soreness may outweigh the benefits.

Reducing or stopping the use of hyperbaric oxygen therapy in delayed-onset muscle soreness, ankle sprain and acute knee ligament injury is likely to improve the quality of patient care and result in productivity savings by reducing exposure to unproven therapies for conditions for which less costly alternative interventions exist.

The ‘Implications for practice’ section of the Cochrane review stated:

'There was insufficient evidence from comparisons tested within randomised controlled trials to establish the effects of hyperbaric oxygen therapy on ankle sprain or acute knee ligament injury, or on experimentally induced delayed-onset muscle soreness. There was some evidence that hyperbaric oxygen therapy may increase pain in delayed-onset muscle soreness. Thus, the use of hyperbaric oxygen therapy in these patients cannot be justified by this review.'

Details of Cochrane review

**Cochrane review title**

Hyperbaric oxygen therapy for delayed onset muscle soreness and closed soft tissue injury

**Citation**


When the review content was assessed as up to date

25 April 2010
Evidence

Relevance to the NHS
The Cochrane review included nine small randomised controlled trials, involving a total of 219 participants. Two trials compared hyperbaric oxygen therapy versus sham therapy on ankle sprain and knee sprain respectively. Neither trial provided sufficient evidence to determine if hyperbaric oxygen therapy helped people with these injuries. The other seven trials examined the effect of hyperbaric oxygen therapy on muscle injury following unaccustomed exercise. There was no evidence that hyperbaric oxygen therapy helped, but some evidence indicated that it was associated with slightly more pain. Further research on hyperbaric oxygen therapy is not a high priority given the variety of other treatment interventions available.

Relevant NICE guidance
No relevant NICE guidance was available at the time of publication (October 2011).

Potential productivity savings

Estimate of current NHS use
There is no information available on the current levels of NHS usage of hyperbaric oxygen therapy interventions. 600 treatments were carried out as outpatients.

Level of productivity savings anticipated
Cost per outpatient treatment was £222 (2008–09 reference costs)

Type of saving
No impact on cash, but resources are freed up that can be used for other activity

Any costs required to achieve the savings
No additional resources required

Potential impact on quality of NHS care

Impact on clinical quality
Clinical quality will be improved by reducing the use of unproven therapies
## Impact on patient safety
Not anticipated to have significant impact on patient safety but may reduce the risk of increased pain associated with hyperbaric oxygen therapy for delayed onset muscle soreness

## Impact on patient and carer experience
Improved patient and carer experience anticipated

### Likely ease of implementation

**Time taken to implement**
Can be achieved quickly: 0–3 months

**Healthcare sectors affected**
Affects one department or team

**Stakeholder support**
Likely to achieve good buy-in from key influencers