

#### **Item 6.4: Reconsideration of Application 1054.1: Hyperbaric Oxygen Treatment (HBOT) for non-diabetic chronic wounds.**

##### **Summary of consideration and rationale for MSAC's advice**

MSAC noted that the submission, provided as Attachment 1 of a letter dated 16 July 2012 on behalf of the Australian Healthcare and Hospitals Association (AHHA), the Australian and New Zealand Hyperbaric Medicine Group (ANZHMG) and the Australian Medical Association (AMA), raised seven “issues of major concern” for MSAC to reconsider regarding its November 2011 advice to the Minister to cease interim funding for hyperbaric oxygen therapy (HBOT) for chronic non-diabetic wounds. MSAC considered each in turn.

##### *1. Concern raised: relevant randomised controlled trial underway*

MSAC noted that this sham-controlled HBOT trial had been identified in the Assessment Report considered in November 2011 as “not yet recruiting”. The information provided in the submission confirmed that the trial has commenced, with 37 participants screened, 22 recruited to have compression dressings for four weeks, 17 completed the one month follow-up, and 8 participants randomised to HBOT or sham because they had not responded to compression bandages.

MSAC noted that the 8/17 (47%) participants randomised from those completing the recruitment phase was less than the 64/84 (76%) anticipated in the trial protocol. In addition, as only one centre was actively recruiting and only one other centre had completed ethics approval to be ready to recruit, MSAC expressed concern that obtaining an adequate sample and completing the trial may take longer than the projected three years. MSAC noted that as yet the other two hyperbaric centres had only indicated a commitment to the trial.

MSAC noted that the following issues would arise in using the results of the proposed trial as a future basis to reconsider the question of funding HBOT via the MBS for chronic non-diabetic wounds:

- the definition of “chronic” as being “failure after 3 months of standard care” according to ANZHMG and the trial protocol’s use of “failure after 4 weeks of compression dressings”
- the representativeness of venous ulcers of other types of chronic non-diabetic wounds
- the adequacy of the assessment of outcomes in the trial up to 12 weeks, assessment up to 18 weeks would be more informative given that the only available randomised trial to date failed to show a statistically significant advantage for HBOT over sham at 18 weeks, which reflects the fact that some wound improvement occurred with sham therapy
- there is no evidence that the trial protocol had been independently reviewed for scientific validity (e.g. via the NHMRC application process) or that analysis of the trial results would be undertaken in a blinded manner or by investigators free of any conflict of interest in the trial outcomes.

MSAC was reassured that the trial raised no ethical issues by disadvantaging participants financially and that it raised no policy issues by billing the MBS to fund the trial-relevant medical services rendered to participants in the context of the trial.

2. Concern raised: *continuation of interim funding justified by trial underway*  
MSAC noted that the details of this trial represented the only substantively new information provided for its reconsideration and understood the argument conveyed on 16 July 2012 that ceasing MBS funding of HBOT for chronic non-diabetic wounds would jeopardise the conduct and completion of the trial. However, given the concerns above in relation to the completion and relevance of the trial outlined above, MSAC concluded that this did not provide sufficient basis to change its advice to the Minister to cease interim funding of HBOT for chronic non-diabetic wounds.

3. *Repeated efforts to get external funding for research*  
MSAC noted that most of the funding applications listed in the documentation represented research into the basic science underlying the management of wounds with HBOT, rather than on the clinically and policy relevant questions posed by the randomised trial. MSAC noted that the 8-year Wound Management Innovation CRC, which commenced on 1 July 2010, contributed cash funding for the randomised trial.

4. Concern raised: *ignored ANZHMG Wound Care study*  
MSAC reaffirmed its primary reliance on the randomised sham-controlled trial in chronic non-diabetic leg ulcers not responding to other treatment for at least two months published by Hammarlund and Sundberg in 1994 as its basis for determining the comparative effectiveness of adding HBOT to ongoing conventional therapies. MSAC also reaffirmed that the three uncontrolled case series studies (including three reports from the multicentre prospective ANZHMG Wound Care study) did not change its comparative effectiveness conclusions because they provide a much less confident basis for making a comparative assessment.

Beyond its non-comparative nature, particular concerns with the ANZHMG Wound Care study included its voluntary registration of participants rather than consecutive recruitment and its less complete reporting of outcomes for participants who did not subsequently receive HBOT.

MSAC noted that the results of the ANZHMG Wound Care study were relied upon in its consideration of comparative cost-effectiveness (see below).

5. Concern raised: *cost-effectiveness model incorrectly assumed first-line HBOT*  
MSAC could find no basis for this concern. MSAC considered that the structure of the model is correct. Importantly, patients entering the model were defined as having “chronic non-diabetic wounds”, and the definition of “chronic” was failure of wound healing within 12 weeks of conventional first-line therapies.

Further, the healing rates in the HBOT arm come directly from the results of six years of the ANZHMG Wound Care study which registered patients using the same definition of failure and the costs reflect the inputs of the experts on the Advisory Panel who were also aware of this same definition.

The assumption that the same healing rates occur in the usual care arm was consistent with MSAC’s overall conclusions of comparative effectiveness from the randomised sham-controlled trial and is more reliable than any other source of comparative healing rates.

6. Concern raised: *undue haste in finalising the Assessment Report for 1054.1*  
MSAC recalled that this concern of undue haste was clearly identified in the dissenting report to its November 2011 meeting and had been noted in that context. MSAC affirmed that it had taken all relevant matters into account, including this concern, in determining its advice to the Minister.

7. Concern raised: *undue haste in signing off the Assessment Report for 1054.1*  
MSAC recalled that this concern of undue haste was clearly identified in the dissenting report to its November 2011 meeting and had been noted in that context. MSAC affirmed that it had taken all relevant matters into account, including this concern, in determining its advice to the Minister.

#### *Other considerations*

During its discussions, MSAC expressed reservations over the ability of current interim funding to achieve its primary objective, namely the production of evidence that can be used to support decision making. This view was informed by past experiences of MSAC in reviewing the outcome of interim funding decisions. The reservations discussed included:

- the potential for interim funding to create a perverse incentive for applicants to rely on weak rather than strong evidence for the initial MSAC consideration
- the need, as a prerequisite to any interim funding, for agreement across all affected parties that the study design, data collection and data analysis will generate relevant and rigorous evidence about the item during its interim funding, so there will be a more confident basis for MSAC reconsideration
- the need for the assessment of an item during interim funding to be conducted independently
- the need for the study of the item to allow for monitoring to contemporary standards of academic rigour
- the difficulties, for all affected parties, if interim funding is subsequently withdrawn.

At the request of the applicant, MSAC also reconsidered its advice in relation to the text of the item descriptor for HBOT for soft tissue radiation injuries. MSAC advised that the randomised trial data most directly supports the exclusion of radiation-induced soft tissue lymphoedema of the arm after treatment for breast cancer, and less directly supports the exclusion of other soft tissue radiation injuries when lymphoedema is present.

Based on the strength of the available evidence and as recommended by MSAC in November 2011, MSAC remains in support of the narrower exclusion of the two alternatives.

MSAC noted that other matters were raised in the documents provided for its reconsideration, such as the appropriateness of the MSAC review process and the expectations of the evidence which were applied in the Assessment Report, but judged that addressing these would not materially alter its advice to the Minister.

**MSAC's advice to the Minister**

After re-considering the strength of the available evidence in relation to the safety, clinical effectiveness and cost-effectiveness of hyperbaric oxygen therapy (HBOT) for chronic non-diabetic wounds, MSAC reaffirmed its November 2011 advice to the Minister that it does not support public funding for this indication on the basis of insufficient evidence that it is more effective and acceptably cost-effective compared with usual care without HBOT.

In relation to the indication of HBOT for radiation soft tissue injury, MSAC advised the following text for the MBS item descriptor:

HYPERBARIC OXYGEN THERAPY, for treatment of localised non-neurological soft tissue radiation injuries (excluding radiation-induced soft tissue lymphoedema of the arm after treatment for breast cancer) performed in a comprehensive hyperbaric medicine facility, under the supervision of a medical practitioner qualified in hyperbaric medicine, for a period in the hyperbaric chamber of between 1 hour 30 minutes and 3 hours, including any associated attendance.
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