

NICE Health Technology Appraisal (Tooth Decay – Heal Ozone) Assessment Report

Expert Comment January 2005

Introduction

Ozone has been proposed as a novel way of treating dental caries. The production of the ozone gas in dental procedures relies on the 'HealOzone' device marketed by KaVo. This device is expensive and the NICE assessment report investigates the clinical effectiveness of the procedure and its cost-effectiveness.

Comment

The NICE Assessment report has used all the usual searches to obtain published studies on the procedure.

Only one study had been published in a refereed journal, most of the other studies were PhD thesis or abstracts.

The report concludes, correctly, that there is a lack of evidence available on the use of ozone therapy.

Most of the work carried out on the use of ozone is linked to The University of Belfast and the team of researchers involved with Professor E Lynch. Again the report concludes that more widespread research on the use of ozone is desirable.

The cost-effectiveness of the procedure, assuming that the procedure is effective, varies between the site of the decay. HealOzone is 63% more expensive in non-cavitated pit and fissure lesions and 31% less expensive in root caries than conventional techniques. This data is flawed as the long term effects of the Ozone are not reported and it fails to take into account preventive measures of caries control. Indeed in one study the patients who had preventive measures applied showed no improvement despite these procedures to be known to be effective.

It was very apparent that the investigation of the clinical effectiveness of the ozone procedure was severely hampered by the lack of good quality published studies.

Areas omitted in the Report

The Report states that it was not possible to find or quantify studies which investigated the adverse effects of conventional restoration when compared to the HealOzone technique.

These effects were listed as numbness following the procedure, local anaesthesia pain and anxiety, all of which are reduced or absent from the ozone technique.

The marketing policy of the manufacturer of the HealOzone machine relies heavily on the psychological advantages and reduced pain of the technique, therefore it would have been desirable for the report to comment on the marketing procedures.

Conclusion

The report on the HealOzone technique is very comprehensive, with good description of the problem of dental decay. The theory behind the use of ozone is also well explained.

However the report is hampered by the lack of good quality, published evidence and the conclusion that further research into the technique is required is accurate.

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