Argon beam coagulation in orthopaedic, urological and thoracic surgery at the MUHC: a brief report

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Record Status
This is a bibliographic record of a published health technology assessment from a member of INAHTA. No evaluation of the quality of this assessment has been made for the HTA database.

Citation

Authors' objectives
The Orthopaedics, Urology, and Thoracic divisions of the Department of Surgery at the McGill University Health Centre (MUHC) have jointly requested purchase of an electrosurgical generator with argon beam coagulator (ABC) capability for use in the operating room of the Montreal General Hospital. This technology assessment report was carried out at the request of Donna Stanbridge, Chair, Operating Room Product Approval Committee (ORPAC). ABC is used for two quite different objectives: 1) to secure haemostasis and to obtain better surgical visibility during surgery, and 2) as an adjuvant therapy following surgery for bone tumours. In this report we consider only its use in the three areas for which the technology has been requested at the MUHC: i) Orthopaedics: In orthopaedics ABC will be used for three procedures: 1) For extensive soft tissue resection and amputation, 2) To treat the cavity after removal of bone tumours with the objective of reducing recurrence rates. 3) It might also be used for arthroscopic procedures where cauterisation is needed.1 ii) Urology: In urology ABC will be used for partial nephrectomy procedures, to secure haemostasis by uniformly coagulating the resected surface of the kidney. It may also reduce the formation of eschar that may become dislodged post-operatively and cause post-operative haemorrhage1. It may also possibly eradicate residual tumour cells, thus reducing the risk of local recurrence.1,2 It may also be used to control surface oozing during open radical prostatectomy cases. iii) Thoracic Surgery: The ABC system may be used for extra-pleural thoracotomy pneumonectomy to prevent profuse bleeding through meticulous haemostasis.3 Two argon beam coagulation units are already in use at the MUHC. One is located in the operating room of the Royal Victoria Hospital, where it is used in liver transplant surgery. The second is used in the Gastroenterology unit at the Montreal General Hospital; however, this unit is not suitable for laparoscopic procedures. In addition, two electrosurgical units that are argon-capable (i.e. can be extended to include argon beam coagulation) are in use in the MGH operating room (Model ICC 300, manufactured by ERBE).

Authors' conclusions
In coming to a decision on this issue the Surgical Mission should take the following points into consideration: Some surgeons believe that the availability of ABC in the operating room may result in better surgical outcomes. The budget impact of approving this acquisition would be relatively modest, approximately $20,000 a year. Before undertaking any permanent purchase, the possibility of converting existing equipment should be explored. If such conversion is not feasible this technology should initially be acquired on a short-term basis to allow for its evaluation by different interested surgeons.

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