

**DIAGNOSTICS**

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**Positron Emission Tomography (PET)**, invented in Montreal as a gift to the world with its many innovative derivatives (PET/CT, PET/MRI) and applications, is revolutionising the detection and tracking of many diseases, especially active cancer. The fact is while PET is widely available in many countries around the world and in other provinces in Canada, it is not widely available in Ontario. In this province clinicians are severely restricted in accessing this modality to the detriment of their patients' welfare.

**POINT**

**Represents the perspective of those in a position to make far-reaching health care decisions for Ontarians and who are currently opposed to the clinically guided use of PET in this province.**

**COUNTERPOINT**

Represents the perspective of a clinician who deals, on a daily basis, with cancer patients who need access to this modality.

**POINT**

**There is no high quality evidence to support the use of PET.**

**COUNTERPOINT**

Most patients present with a unique set of problems and hence Phase III trials of imaging are extraordinarily difficult to conduct. A wide variety of indications for PET have been established based on good evidence from well-designed comparative, but not randomized, studies. Among the studies that justify its use is one large randomized trial that showed pre-operative PET scanning can cut in half the instances of futile surgery in lung cancer patients headed for thoracotomy. The results of the study were published more than five years ago in a prestigious medical journal<sup>1</sup> yet it was not until late in 2007 that Ontario approved pre-operative PET scanning in this situation.

As additional evidence of the widely recognized value of PET, physicians training in diagnostic imaging must now get experience interpreting PET scans in order to

qualify for the Canadian Fellowship Examination. Trainees in London, Ontario, however, had to leave the province to get this experience because of restrictions in access to PET scans.

The limited trials in Ontario are ostensibly to establish the utility of PET in oncology. They are not randomized and are of questionable quality given the lack of documentation required in each case. The Ontario trials are also quite restrictive, leaving PET scanners in the province lying idle or used to study animals. Meanwhile, high quality innovative research of a vastly different nature in the use of PET is proceeding rapidly in numerous other jurisdictions.

**POINT**

**Inappropriate factors (are) driving the number of diagnostic tests in Canada.<sup>2</sup>**

**COUNTERPOINT**

By inference, access to PET scanning should be curtailed to prevent theoretical, future overuse. Where is the evidence, based on randomized trials, that Ontario oncologists and haematologists are ordering unnecessary imaging tests for their patients? Is it fair to penalize cancer patients when, for example, cardiology patients are also subjected to expensive isotope studies based solely on clinical indications?

**POINT**

**PET scanning is too expensive.**

**COUNTERPOINT**

A major cost of PET is in the production and transportation of the short-lived isotope. This cost can be greatly reduced by producing cyclotrons centrally and in large quantity. By adopting this tactic, the cost of a PET/CT in South Korea has been reduced to \$775 Canadian, compared to current costs of \$1300–\$2000 in Canada. In Seoul, patients with lymphomas are assessed before chemotherapy, after two rounds (treatment is altered if there has been no response) and again three to four months following treatment. If the last scan is negative, it is repeated every two years but no other follow-up or examinations are conducted.

**POINT**

**The exceptional use protocol does provide clinicians with access.**

**COUNTERPOINT**

In fact, an anonymous panel of three people adjudicate requests for exceptional use. They turn down many requests because of the "lack of high quality evidence." The panelists require Phase III trial evidence to justify use, but such trials will rarely be conducted. McMaster University in Ontario has had 12 years of experience in PET, yet the expertise at this centre is largely ignored by individuals guiding government policy. The implication, it seems, is that experienced imaging physicians, oncologists, and haematologists are less capable of making appropriate recommendations for the benefit of their patients than the ministry's anonymous "expert" committees.

**POINT**

**The appeal mechanism from the expert panel decision will provide another opinion.**

**COUNTERPOINT**

Appeals to the Health Services Appeal and Review Board, (HSARB) although suggested by the Ministry, would be a waste of time and money. The HSARB stated in a judgement on October 17, 2006, that "Since the Schedule of Benefits does not include PET scans, they are not an insured service under the Act and the Appeal Board cannot order the General Manager to pay."

**Summary**

Ontario limits cancer patient access to a tool that can help to achieve early diagnosis and accurate follow-up in individual patients. If used widely and appropriately, PET could ultimately lead to better cancer control.

**References**

1. Van Tinteren H, Hoekstra OS, Smit EF, et al.: Effectiveness of positron emission tomography in the preoperative assessment of patients with suspected non-small cell lung cancer: the PLUS multicentre randomized trial. *Lancet*. 2002 Apr 20;359(9315):1388–93.
2. Laupacis A, Evans W: Diagnostic imaging in Canada. *Healthcare Papers*. 2005; 6 (1): 8–15.