



Centre universitaire de santé McGill McGill University Health Centre

Date: October 27 2003

Time: 10:30 –12:00

Location: Ross 4

Participants: Liane Ashford (LA)

Carol Burnett (CB)

Jay Brophy (JB)

Maurice McGregor (MM)

Subject: Central Venous Catheters (CVC) and related equipment

Resume: The MUHC (Nursing) Patient Care Supply Committee (PCSC), a multidisciplinary committee with representation from nurses (all sites), Materials Management (Purchasing, General Stores and CSR), Infection Control and Occupational Health and Safety are requesting guidance from the Technology Assessment Unit with regards to usage of Central Venous Catheters (CVC) and related equipment. The issues relating to health outcomes and costs of these catheters was the subject of this meeting.

LA and CB provided some initial background information on the technology of these catheters and the history of their introduction at the MUHC. Peripheral Inserted Central Catheters (PICC) are non-tunnelled, micro-pigtail central venous catheters which were introduced at the MUHC approximately 5 years ago and have largely replaced large lumen tunneled catheters (“Hickman’s”) or ports (“Port-a-Caths”). Advantages include an easier installation process in the radiology department (as opposed to the difficulties in securing operating room time) and probably decreased costs. However, as LA and CB point out these catheters are associated with certain complications including blockage, infection and local thrombophelbitis. Apart from augmented patient morbidity, a

frequent need to change these PICC lines could possibly remove any economic advantage. To address the problem of blockage, the companies have recently introduced positive pressure devices at \$6 - \$12 per unit. As one device is required for each catheter lumen and the average PICC line has 2 lumens, the additional cost may be doubled. Moreover, it is unclear whether the devices require a change every 72 hours in the in-patient population as per MUHC Infection Control guidelines or even whether these devices are required at all in every patient. Given that the catheters are often in place several weeks, this could lead to a substantial increase in costs.

Practical experience of both LA and CB suggest that the health outcomes and consequently cost-effectiveness of PICC lines are not necessarily as positive as those reported in the literature. The exact causes of local complications are unknown. Moreover, there appears to be a dearth of information on the subject and in particular there are no records of our local success and complication rates.

MM and JB outlined briefly the role and functioning of TAU, as a unit dedicated to synthesizing information on cost, efficacy and ethics to enable decision makers to make appropriate and transparent decisions. In general, TAU does not have the resources to perform primary data collection and should not be involved in issues of quality control where departmental expertise already exists and must not be usurped. Based on these considerations, it is unclear if TAU can be of formal assistance to PCSC in this matter.

Nevertheless, the issues seems of sufficient concern that TAU proposes the following measures;

- 1) to encourage PCSC, perhaps via the Department of Nursing, to consider a collection of data of consecutive cases to objectify success and complication rates in order to precisely quantify the presence of any problem. A prospective data collection process is likely to provide the most complete data, although a retrospective chart review has the advantage of being quicker and perhaps less costly to perform
- 2) depending on the results of this audit, it may well be decided that the formation of a multidisciplinary task force to assess patient indication, catheter selection, installation and follow-up procedures may be

necessary to assure optimum utilization of this technology (quality control mechanisms)

- 3) to pursue an extensive literature search as to the efficacy, cost and safety of these catheters and to inform PCSC of any pertinent publications
- 4) to remain available for further consultation with PCSC as required

MM and JB thanked LA and CB for taking the time to discuss this issue and the meeting was adjourned at 12:00.

Yours truly,