

Following the unexpected death of Lisa Shore, The Hospital for Sick Children has completed the following steps:

1. Pain Service meeting was held and the events were reviewed. A review of best practices from other leading paediatric hospitals supported the current practice guidelines for monitoring patients receiving narcotics via PCA pumps. The monitoring guidelines at HSC were more stringent and required more frequent monitoring of vital signs than at other institutions. In particular, regarding continuous oxygen saturation monitoring, the leading practices at other institutions revealed that most centres do not order oxygen saturation or apnea monitoring with PCA unless there is underlying co-morbidity which could put the child at higher risk for respiratory depression.

The other centres contacted were the following:

- Children's Hospital of Eastern Ontario
 - IWK, Halifax
 - Alberta Children's Hospital, Alberta
 - Boston Children's Hospital, Boston, MA,
 - The Floating Hospital for Children at New England Medical Center, Boston, MA
 - Vanderbilt Children's Hospital
 - St. Jude Children's Research Hospital, Memphis TN
 - Stanford Children's Hospital
 - Arkansas Children's Hospital
 - Cliniques University St. Luc, Catholic University of Louvain Medical School, Brussels, Belgium
 - Royal Liverpool Children's Hospital, UK
 - Great Ormond Street, UK
2. The Department of Anaesthesia - Chronic Pain Management Services now has admitting privileges for chronic pain. These patients are admitted to unit 5AB because of their expertise in dealing with pain.
 3. The dosing guidelines are very similar to other leading paediatric centres, however the maximum PCA bolus dose at HSC has been changed to 1 mg of morphine every 5 to 10

minutes for non-malignant type pain, unless the anaesthesia pain service staff physician has been consulted. The KIDCOM pain service order sets are currently being reviewed.

4. A Morphine Task Force group was struck and have studied incidents related to opioid use and have considered the recommendations from the Trevor Landry Inquest. The current nursing/pharmacy policies and procedures have been reviewed. This group recommended that morphine as well as other parenteral opioids (such as meperidine, fentanyl, hydromorphone and sufentanil), be added to the list of "potentially highly toxic drugs" and this has been passed by the Pharmacy and Therapeutics Committee and Patient Care Committee. This means that two nurses will calculate the dosage and draw the narcotic up together. It was also recommended that all children receiving parenteral opioids be continuously monitored using O2 saturation.

5. Proposal: Presently, there are about 45 patients from across Ontario, being followed in an outpatient clinic for chronic pain management at HSC. During late 1998, a chronic pain proposal was prepared and identified a team of staff, including physicians, Clinical Nurse Specialist, physiotherapists and psychology, were required to provide care for this group of patients. This proposal was presented to the Ministry of Health in October 1999. As a result of a recent endowment, we have been able to establish as of July 1, 2000, a fellowship in pediatric chronic pain, which will include clinical practice, education and research.

6. Oxygen Saturation Monitors: The risk of children receiving morphine infusions throughout HSC has been examined. The policy has been changed (see number 3 above). There have been 13 additional oxygen saturation monitors purchased to ensure availability of monitors for all children receiving opioid infusions. For any additional PCA pumps purchased, there will be an additional oxygen saturation monitor purchased as well.

7. **Education sessions:** have been held on unit 5AB specifically and on the policy changes (see above). These sessions have stressed setting limits for various monitors, response to alarms, appropriate choice of monitoring and accuracy of monitoring, frequency for doing vital signs and documentation. Particular attention has been placed on monitoring patients who are receiving opioid infusions for pain control. On unit 5AB specifically, there have been sessions to further educate on care of children with chronic pain. As a continuance of previous practice, topics about emergency equipment and "Mock Codes" are run in which the nursing staff and residents practice doing emergency arrest codes at least twice per year on each inpatient units of the hospital. Nursing staff across HSC are also offered a 4 hour Emergency Procedures Class which they may attend for any additional practice or learning they feel they need in order to provide effective care during any emergency situation.

8. A **Nursing Practice Committee** has been established on Unit 5AB in which nursing practice and professional issues can be discussed and current practice and literature can be presented. The previous practice of periodic inservices has been formalized into weekly multidisciplinary care rounds to allow the full multidisciplinary team to address patient care and quality management issues which may be identified.

9. **Staffing:** For unit 5AB, there has been an Advanced Practice Nurse hired and a full time equivalent for Nursing Education added from the previous 0.5 F.T.E.