

**CAS Working Group on Patient Safety
Final Report
for the Canadian Anesthesiologists' Society Board of Directors
September 6-7, 2003**

KEY RECOMMENDATIONS TO THE CAS:

1. The CAS promote patient safety as a high priority;
2. The CAS form a new Standing Committee entitled, The Patient Safety Committee (PSC);
3. The PSC will prepare its own terms of reference and strategic plan for the first 3-year term that are based on this report. Several attainable goals will be defined. This information will be presented to the CAS Board in February 2004.
4. The newly formed PSC will maintain the three priority programs established by the PSWG through a sub-committee structure. The programs include Medical Error, Database and Simulation.
5. CAS provide appropriate and affordable resources for the PSC;
6. Identify a Director and Advisory Board to lead the PSC; Dr. Ian White is suggested as a possible Chair of the PSC. Suggested member for the Advisory Board include John Wade, Beverley Orser and Bob Byrick.
7. Establish links with affiliated organizations to share knowledge, consolidate efforts and develop international standards;
8. Establish a partnership with the Institute of Safe Medication Practices Canada to develop an Anesthesia Drug Error Reporting Program;
9. Establish a partnership with the Canadian Patient Safety Institute;
10. Promote educational opportunities that increase knowledge about patient safety at the national meeting;
11. Create a forum for Simulation-Based education at the annual national meeting and the 16 Canadian Medical Education Programs;
12. Develop a mechanism to distribute the Newsletter from the American Patient Safety Foundation to members of the CAS.

Background: Patient Safety has been the focus of increasing attention in both the lay and medical press. Reports have raised concern regarding the number of adverse events experienced by patients, particularly during the peri-operative period. This preliminary report was prepared in response to directives from Dr. John Scovil, President of the Canadian Anesthesiologists' Society (CAS) and the CAS Board of Directors to establish a Working Group on Patient Safety. The final report was prepared in consultation with members of the Working Group on Patient Safety following the 2003 CAS Annual Meeting.

Terms of reference: The terms of reference of the Working Group on Patient Safety (WGPS) are to develop strategies aimed at improving patient safety for patients undergoing anesthesia and perioperative care.

Mandate: We seek to identify key areas of risk, develop strategies to reduce risk, and identify feasible mechanisms and resources that will permit these strategies to be implemented. The recommended timeline was to submit an interim report to the Board of Directors at the CAS meeting in June 2003. The final report will be submitted to the Board in September 2003. Following approval the Working Group will begin implementing the recommendations in October 2003.

Priority programs were established by first, reviewing the peer-review literature. Dr. Pam Morgan provided a summary of the literature that identified cause and frequency of critical events during anesthesia. Committee members held face-to-face meetings as well as teleconferences. Members held

meetings with other patient safety organizations in Canada and abroad. Based on these discussions and reports, three priority programs were identified:

- 1) Medical Errors
- 2) Database
- 3) Simulation

Working groups were established to target these areas. The working groups reported on a regular basis to the Patient Safety Working Group (PSWG) and developed specific recommendations for action.

Co-Chairs

Dr. John Wade
Dr. Beverley Orser

Liaison Partners Members

Dr. Homer Yang
Dr. Robert Elliott
Dr. Robert Seal
Dr. Jordan Tarshis

Dr. Ian White
Dr. Bob Hudson
Dr. Pam Morgan, (Communication Committee Chair)
Dr. Peter Duncan
Dr. Daniel Chartrand (Standards Committee Chair)
Mrs. Angela Snider, (Staff Liaison, Executive Director)

SUB-WORKING GROUPS

Database

Dr. Ian White (Chair)
Dr. Homer Yang
Dr. Peter Duncan
Dr. Greg Dobson
Dr. Beverley Orser
Dr. Richard Merchant
Dr. Jim McMenemy
Dr. Jan Davies

Medical Errors Simulation

Dr. Orser (Chair)
Mr. David U
Dr. Ian White
Dr. Jan Davies
Dr. Daniel Chartrand
Dr. Robert Hudson

Dr. Pamela Morgan (Chair)
Dr. Jordan Tarshis
Dr. Mike Fetzer
Dr. Adam Law
Dr. Robert Byrick

Attached below are reports from the three sub-working groups that summarize activities over the past year.

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Medical Error Working Group

Medication events such as wrong drug, wrong dose, or wrong route of administration are the most common preventable causes of patient injury. In patients undergoing anesthesia and perioperative care, adverse drug events are the most common cause of a critical incident and cardiac arrest.

Mandate: The mandate of the Sub-Working group on Medical Error is to improve/prevent error and improve drug safety through the development of guidelines, educational seminars and practice recommendations.

The working sub-group recognizes that funding and resources are limited. To reduce the financial and human resource burden on the CAS, other stakeholders such as pharmacy and nursing organizations will be approached to participate in the development and implementation of recommendations. In the future, the working group will conduct business via quarterly conference calls and meet once a year at the CAS Annual Meeting in June.

The following were identified as the key issues related to medical errors for the CAS to focus on:

1. Improved labeling and drug safety in the OR with an aim to develop standards (*Dr. Chartrand agreed to add this issue to the agenda for the CAS Standards Committee once the committee's current mandate had been fulfilled, and noted that the international patient safety stake holders will also be consulted*);
2. Introduction of infusion pump safety systems;
3. Promote mandatory education when new major equipment is introduced in the OR;
4. Advocate online reporting of equipment problems from the practitioner's anesthetic workstation directly to Health Canada;
5. Disseminate drug information alerts, if appropriate, to CAS members and other interested parties

Reporting Programs for Critical Events:

Mr. U, President of the Institute of Safe Medication Practices Canada (ISMP Canada), reports that ISMP Canada is currently building a database that captures medication error reports from health professionals in 15 hospitals. The database has already accumulated approximately 5,000 records. We will develop anesthesia-specific fields that can be added to the Web-based form to capture information relevant to anesthesiologists. Reciprocal links between the Health Canada and the CAS sites are suggested.

An information database is proposed for the CAS Web site. This will be established in collaboration with Dr Robert Elliott, the organizer of the current Equipment Problem database. Mr. U and Dr. Davies will also collaborate on this project.

Associations with other Drug Safety Groups

The subgroup aims to develop relationships with the Australian, American and UK anesthesiologist societies that would be very valuable to the Society. Dr. Orser reports that outside ISMP-Canada, there is currently little activity underway in Canada to address the issue of critical events. The federal government has committed 10 million dollars per year for five years to develop a national Patient Safety Foundation. The subgroup feels that the CAS could seek funds from this organization to support projects. The general consensus is that the CAS could possibly be awarded federal funding for patient safety related projects, particularly if the outcome were to affect not only anesthesiologists and their patients, but a larger range of health care providers and their collective patients.

Mechanisms to Disseminate Drug Information Alerts

The Group proposes to use the CAS website, e-broadcasts to CAS members and *Anesthesia News* to disseminate patient safety related information, such as drug information alerts, when considered appropriate and that they be disseminated not only to CAS members but other

interested or affected parties. It was also suggested that the CAS collaborate with its other patient safety stake holders so that this type of vital information is shared between groups.

Until the mandate and structure of an ongoing Anesthesia Patient Safety component of the CAS is finalized, it was agreed that the Medical Errors Sub-Group of the PSWG would review drug alerts via e-mail or conference calls and issue warnings in a structured announcement format as required. The Group would also make recommendations to the CAS Standards Committee to consider additions or amendments to the CAS Guidelines to reflect current practice whenever it is felt necessary.

Pump Safety

ISMP Canada was founded 3 years ago and now has a number of programs in place geared to reducing the incidence of medical errors and increase safety in medical practices. The data being collected from a recent survey on pump safety would be particularly relevant to anesthesiologists. Assistance from the Society in the eventual clinical evaluation and analysis of the data would be critical to the success of the project.

The Group agreed that new data on pump safety and eventual standard development in this area would be of great benefit to CAS members and other interested stakeholders. The Group felt that the project was eligible for federal funding under the proposed Patient Safety Foundation budget outlined in the recent Health Accord. It was agreed that Dr Jan Davies and Mr. U would develop the required steps to ensure a CAS/ISMP collaboration on this project, ensuring essential assistance at the data analysis stage and reporting to the Group and general audience at the June Patient Safety Symposium.

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Database Working Group

Mandate

1. To advise the PSWG and the Board on the feasibility of developing a national Critical Incident Database (CIDB) under the auspices of the Canadian Anesthesiologists' Society (CAS)
2. To advise the PSWG and the Board on partnering with other agencies (national, international and industry) in developing a CIDB.
3. To advise the PSWG and Board on the form and structures required to support a CIDB.

The Database Sub-group (DBSG) of the Patient Safety Working Group (PSWG) met by teleconference on two occasions. At its first meeting it was decided that there were two initiatives critical to the formation of a Critical Incident Database (CIDB): firstly, ensuring a common form and language for a database that has commonality with other international groups; and secondly, a database group that would advise the PSWG and the Board on the form and focus of CIDB reporting at the CAS. The DBSG has also arranged, under the auspices of the CAS Annual Meeting, a 2 hour Symposium on Patient Safety followed by a Round Table of National and International guests. It is hoped that the Round Table will provide additional guidance to the DBSG and PSWG on the form and direction of patient safety initiatives (from their experience) and on a CIDB.

1. **Language Group**

Dr. Homer Yang is chair of this group. He has been working closely with the Anesthesia Patient Safety Foundation (APSF) and the American Society of Anesthesiologists (ASA) on a Data Dictionary Task Force (DDTF) for over a year. The strategy of this group is to develop a common language and a dictionary of terms for a CIDB. This group is also working closely with groups from the UK and Australia. Representatives from all these groups will be meeting in Ottawa at the time of the CAS meeting to continue their discussions and will be attending the Symposium and Roundtable Discussions.

The Working Group has recommended that Homer Yang continue with his work with the DDTF.

2. Database Group

At its initial meeting the group agreed that the theme would be to foster the development of a "culture of safety". It was agreed at that first meeting that any CIDB hosted by the CAS should follow the following principles:

- a. Simple and easy to input data
- b. That data input be closely linked to intended outputs
- c. That the data would be non-attributable
- d. That the data and coding would be done locally using templates provided by the DBWG
- e. The coding would be based on a common dictionary of terms
- f. The data would be based on an event where something went "wrong" or an unexpected event
- g. Would ask the question "Has someone else had a similar event?"
- h. The database would be analyzed on a regular basis and reports published through the CAS or CJA print or web-site

Amongst members, it was agreed that the main obstacles would be apathy and the fear of legal proceedings as a result of reporting adverse events. At its subsequent meeting the group had an opportunity to hear reports from Dr. Merchant and Dr. Dobson on their experience with two very different types of CIDB; Self Reporting and Anesthesia Information Management System (AIMS) designs. The group also heard from Mr. Jim McMenemy, an industrial psychologist with Transport Canada, with extensive experience in accident reporting and database design. He cautioned the group about developing a large CIDB but rather the development of databases that focus on what we actually do. He recommended that the DBSG and the CAS learn from the New Zealand CAA experience that their database is based on the concept that, "Data without a theory is like a body without a skeleton".

The group now recommends to the PSWG and the Board that:

- a. The development of a CIDB, under the auspices of the CAS should be focused on a specific area of Patient Safety.
- b. That the CIDB follow the Principles outlined above.
- c. That the DBSG and the CAS look for partners.

At the Medication Safety Subgroup (MSSG) the issue of medication adverse events and their importance in anesthesia was discussed. Dr. David U from ISMP Canada is a member of that group. He reported on the experience of ISMP Canada in CIDB Reporting. Dr. Jan Davies and Mr. U have agreed to discuss further the possibility of collaboration on the analysis of the ISMP

5000 report database. The DDSG and ISMP are looking into developing a partnership on a focused CIDB. The two areas of focus might be:

- a. Medication Adverse Events in anesthesia
- b. Syringe Pump Failure Reporting in anesthesia.

Recommendation: That the DBSG, on behalf of the CAS, enter into formal discussions with ISMP Canada and report to the Board in September.

Rationale: The proposal would recommend a linked reporting site between the CAS and ISMP Canada. The data entry would be on the CAS website, which could be either a 'form' that captures the data for ISMP Canada, or a link directly from CAS to ISMP Canada.

Medication problems are 'easier' to address than are other problems and are also understood by the public as a source of complications of healthcare.

Using the CAS website would 'encourage' anesthesiologists to report their problems to one central location.

Using the ISMP Canada database would allow the collation of data from an already established, funded and well-respected site. Problems reported are relayed to Health Canada. In addition, having anesthesiologists form an alliance with ISMP Canada would help us in any discussion with Health Canada, for example, to change drug or package labeling.

ISMP Canada would need to change its data entry screens to allow anesthesiologists to enter cases. Ideally, anesthesiologists would be simply one more choice on the drop-down of 'Who is Reporting'. ISMP would also need to make changes to its data analysis and reporting. All of these changes would need to be carried out as a joint venture with the CAS/anesthesiologists.

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Education and Simulation Working Group

Simulation is another step in the evolution of improving patient outcomes in the perioperative period in this country. In the recent National Steering Committee Report on Patient Safety, the use of simulation has been endorsed as a means to improve perioperative outcomes.

Mandate: To develop recommendations that improve patient safety through the promotion of simulation training and the development of a database of adverse events. The aim of the group is to reduce medical error dramatically with simulated crisis training to improve outcome and thereby reducing the CMPS insurance premiums.

Use of Simulation: The aviation industry has a long history using flight simulators and now, all major and regional airlines in the United States require their pilots to receive regular review and education using the flight simulator. We anticipate that with the exponential increase in high-fidelity simulation in health care, a similar course may be evolving. It is important that this technology, which allows "practice" and performance feedback, be embraced, encouraged and supported.

The Canadian Simulation Interest Group (CSIG) has the expertise and ability to provide educational and research initiatives using high-fidelity patient simulation with the view to

address and positively affect patient safety. The CSIG is committed to working together with the Canadian Anesthesiologists' Society to promote patient safety within our specialty. It was suggested that the 16 Canadian universities be lobbied for the provision of funds for simulation training addressing the human-factor side of adverse events. The CSIG promotes a multi-disciplinary approach to training to reflect the many individuals involved in operating room patient care that can result in possible adverse events.

The goals and objectives of the CSIG for the upcoming year include the following:

1. To establish and conduct high-fidelity simulation educational experiences for Family Practice anesthesiologists. Specifically, these sessions will focus on rare and critical event management and will be offered to rural family physicians. For the upcoming year, these courses will be offered in Edmonton and Toronto.
2. To establish and implement research designed to determine if continuing medical education using high-fidelity patient simulation improves the performance of practicing anesthesiologists in the management of routine and critical events. In addition, information will be sought as to the anesthesiologists' opinion of continuing medical education experiences using simulation technology.
3. To report to the Patient Safety Committee of the CAS the progress of the CSIG with regards to these projects.

GP anesthesiologists are encouraged to undertake regular simulation training in order to increase their skill sets and to be aware of the latest developments. Current challenges to anesthesia simulation training are the cost of the equipment and the "fear factor" in regards to confidentiality, which tends to affect participation.

It was recommended that the Working Group provide the CAS with statistical proof showing that simulation training and special "fire drills" decrease the incidence of adverse events. Dr Morgan noted that plans exist to decrease CMPA fees at some point in the future when the literature provides evidence.

Summary: The Working Group on Patient Safety will promote patient safety as a high priority for anesthesiologists and other health care providers. Activities of the WGPS will improve patient outcome and strengthen the tradition of the CAS for promoting clinical excellence.