Canadian Journal of Surgery | Journal canadien de chirurgie

Site and side of surgery: getting it right

Patient safety has always been a major concern of health care professionals. However, since publication in 2000 of a report from the United States Institute of Medicine (IOM),[1] the issue has acquired prominence in the press on both sides of the border, has become a political issue and has gained the attention of patient advocates. The public's attention was captured by the banner headlines that 44 000–98 000 deaths in the US annually could be attributed to medical errors. The majority were related to drug use, such as wrong drug, wrong dose, wrong route and drug interactions. However, within the surgical domain, wrong-site errors were significant and the most easily correctable. These and similar errors related to "systems" or "processes of care" are best addressed through a structured, defined protocol. The analogy most often used is that of the checklist completed before flying a small plane for recreation or a Boeing 747 with 500 passengers. It is standard operational procedure, performed by 2 or more persons … and the plane doesn't fly unless everything checks out.

In the 1960s, when anesthesia deaths were seen to be a problem, the American Society of Anesthesiologists (ASA) developed a systems approach to ensuring patient safety. The ASA score is used worldwide as are their standards for checking machines, gas lines and so on. Wrong-site surgery is a patient safety issue, and when it happens it is devastating for both patient and surgeon. Therefore, independent of medicolegal considerations (the case is almost always indefensible), creating systems that ensure the correct site and side is paramount.

In this issue of the journal,[2] Mark Bernstein courageously presents a case in which a burr hole was made on the wrong side of the skull. He goes through the story in detail identifying the error, how to deal with it medically, with the patient and the family, and makes suggestions about how to actively prevent such an event. It would be useful to know if the systems he recommends are in place to ensure no repetition.

My own experiences in implementing a safety policy regarding side and site of surgery have been frustrating. It has taken 7 years for them to be finally implemented. Following publication of the catastrophe in the prominent institution referred to by Dr. Bernstein, the first attempts to establish the systems to ensure it did not happen in our hospital were made.[3] The concept was accepted by the OR Committee and the Pavillion Management Committee of the Royal Victoria Hospital in Montreal. All operating room users were required to sign off on a form, which addressed only the side of the operation. A systems process was described that required the surgeon and circulating nurse to sign a sheet describing side and paired structure for surgery. The nurses resisted: "we check anyway"; "too much paper"; "never make that error"; "no trust in us!" The surgeons resisted: "let the resident do it"; "put the patient to sleep, I'll be right there"; "I don't do consents"; "never made that error"; "I know my patient and the operating plan."

So the form was filed, hidden in a cupboard and forgotten.

The lack of interest persisted until publication of the IOM report. Then at one of our OR Committee meetings, the orthopedic surgeon pointed out that the site was as important as the side. The surgeons who were fo-

cused on paired organs demurred until the importance of the correct level in axial surgery was pointed out, and the importance of medial and lateral site and side were, therefore, the issue. This surgeon outlined the history of the approach orthopedics had taken to ensure correct site and side for the operation.

In 1993, the Canadian Medical Protective Association (CMPA) identified 3 issues of significance for orthopedic surgeons: wrong patient, wrong-side procedures and wrong spinal level operations.[4] In June 1994, the Canadian Orthopaedic Association (COA) presented to its members a position paper to address these issues.[5] Liaison with the CMPA and publication to its constituency through 1994 crystallized the mantra: "operate through your intitial." Identify the side and site and sign your initials. It became a part of training programs in January 1995 and was ratified as the standard of care at the COA's meeting in June that year. The success of this program is evident with a significant decrease in cases brought to the attention of the CMPA.[6] In 2000, there was only a single incident.

It is noteworthy that the American Academy of Orthopaedic Surgeons (AAOS) established a task force in 1997, which recommended a protocol derived from that of the COA with 3 key points:

- Review the operative procedure with the patient and operating room personnel before surgery.
- Review the patient's chart in the operating room before surgery.
- Write your initials at the operative site — *sign your site*.

In 2002, these key points were updated and expanded in an advisory statement entitled "Wrong-site surgery."[7] The responsibility for eliminating wrong-site surgery is the surgeon's. This advisory has, in addition, useful recommendations for action after the discovery of wrong-site surgery.[8] Bernstein's paper[2] is admirable in this respect. The advantage of use of initials as opposed to an "X" is that if the mark is transferred to another site the initials will be reversed; an "X" is still an "X" when reversed and could therefore be misleading.

The American College of Surgeons (ACS) Board of Regents has approved a statement titled "Correct patient, correct site and correct procedure surgery."[9] It is reproduced (with permission) in its entirety as follows:

> The following statement was developed by the College's Committee on Processes of Surgical Care and the Member Services Liaison Committee. It was approved by the Board of Regents at its adjourned meeting on October 11, 2002.
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> The American College of Surgeons (ACS) recognizes patient safety as being an item of the highest priority and strongly urges individual hospitals and health organizations to develop guidelines to ensure correct patient, correct site, and correct procedure surgery. The ACS offers the following guidelines to eliminate wrong site surgery:
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> 1. Verify that the correct patient is being taken to the operating room. This verification can be made with the patient or the patient's designated representative if the patient is under age or unable to answer for him/herself.
> 2. Verify that the correct procedure is on the operating room schedule.
> 3. Verify with the patient or the patient's designated representative the procedure that is expected to be performed, as well as the location of the operation.
> 4. Confirm the consent form with the patient or the patient's designated representative.
> 5. In the case of a bilateral organ, limb, or anatomic site (for example, hernia), the surgeon and patient should agree and the operating surgeon should mark the site prior to giving the patient narcotics, sedation, or anesthesia.
> 6. If the patient is scheduled for multiple procedures that will be performed by multiple surgeons, all the items on the checklist must be verified for each procedure that is planned to be performed.
> 7. Conduct a final verification process with members of the surgical team to confirm the correct patient, procedure, and surgical site.
> 8. Ensure that all relevant records and imaging studies are in the operating room.
> 9. If any verification process fails to identify the correct site, all activities should be halted until verification is accurate.
> 10. In the event of a life- or limb-threatening situation, not all of these steps may be followed.
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> The American College of Surgeons offers this statement for consideration by surgeons and their hospitals and health organizations. It must be reviewed and modified as necessary to conform to the laws of the applicable jurisdiction and the circumstances of the individual hospital and health organization.

Again a key point is that the surgeon and not a delegate must confirm and sign the site.

The arguments to establish preventive systems were not persuasive in our hospital despite newspaper stories of wrong-site surgery from Boston (fractured hip), Providence, RI, (burr hole) and New York (craniotomy and resection). Until, within a 2-week period, there were 2 sentinel events of wrong side or site interventions. It was then possible to capture the community's attention. Policies were taken through surgical committees, approved in the summer of 2002 by the Council of Physicians, Dentists and Pharmacists and ratified by the Hospital Board of McGill University Health Centre. A checklist has been created based on the concepts initiated by the COA and expanded by the AAOS and the ACS, and was implemented on Jan. 8 2003. It is curious, but by no means unique, that it has been difficult to implement this simple approach to patient safety. The orthopedic surgeons have integrated the principles into their training program, so residents have role models and see that it is normal to initial the site, communicate with the patient and

with the team in the operating room. All training programs should do the same. Indeed, all hospitals and clinics where surgery is performed should have systems in place to ensure correct site and side surgery.

What do I do? Once I had grasped the "initial the site" idea, my approach to the patient in the operating room changed. I see every patient before premedication and review or, more often, complete the consent form with the patient. The patient is then re-examined, findings compared to the chart, the site marked and initialled. In the operating room the scrub team, anesthetist and I all confirm the correct patient, the operation and the site. It's kind of fun. Most notably, the process works and the patients love it!

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La chirurgie à l'endroit : le bon site, du bon côté

La sécurité des patients a toujours préoccupé grandement les professionnels de la santé. Néanmoins, depuis la publication du rapport de l'Institute of Medicine (IOM) des États-Unis, en 2000[1], cette question a pris de l'importance dans la presse des deux côtés de la frontière, est devenue un enjeu politique et a éveillé l'attention des défenseurs des patients. Des titres flamboyants indiquant qu'aux États-Unis, on pourrait attribuer chaque année entre 44 000 et 98 000 décès aux erreurs médicales ont captivé la population. Ces erreurs, dans la plupart des cas, étaient liées à l'utilisation de médicaments, par exemple, l'administration du mauvais médicament ou d'une mauvaise dose, le recours à une mauvaise voie d'administration et les interactions médicamenteuses. Par ailleurs, dans le domaine de la chirurgie, les méprises de site chirurgical étaient des erreurs considérables, mais aussi les plus faciles à corriger. La meilleure façon d'aborder ces méprises et les erreurs semblables, qui tiennent aux «systèmes» ou aux «processus des soins», consiste à établir un protocole défini et structuré. À cet effet, l'analogie qu'on invoque le plus souvent est celle de la liste de contrôle à observer avant le décollage, qu'on soit aux commandes d'un petit avion de plaisance ou d'un Boeing 747 transportant 500 passagers. Il s'agit d'une pratique opérationnelle courante à laquelle doivent se soumettre au moins deux personnes … et l'avion ne décolle pas avant que tout soit en règle.

Dans les années 1960, lorsque les décès attribuables à l'anesthésie étaient perçus comme un problème, l'American Society of Anesthesiologists (ASA) a élaboré une méthode systémique pour assurer la sécurité des patients. La grille de l'ASA est utilisée dans le monde entier, à l'instar de ses normes de vérification des appareils et des circuits d'administration, notamment. La méprise de site chirurgical est un problème de sécurité des patients qui, lorsqu'il survient, est dévastateur pour le patient et pour le chirurgien. Par conséquent, même sans tenir compte des enjeux médico-légaux (la cause est presque toujours indéfendable), il est primordial de créer des systèmes faisant en sorte que l'intervention chirurgicale soit pratiquée sur le bon site et du bon côté.

Dans ce numéro du journal[2], Mark Bernstein présente courageusement un cas de trou de trépan pratiqué du mauvais côté du crâne. Il décrit en détail l'erreur ainsi que la façon d'y faire face sur le plan médical et de l'aborder avec le patient et sa famille. De plus, il formule des suggestions quant aux moyens de prévention active à prendre pour éviter une pareille méprise. Il serait utile de savoir si l'on a mis en œuvre les systèmes qu'il recommande pour veiller à ce que cela ne se reproduise plus.

Mes propres expériences de la mise en œuvre d'une politique de sécurité relative au côté et au site de la chirurgie ont été source de frustration. Sept années se sont écoulées avant qu'elle ne soit finalement mise en application. Suite à la publication du récit de la catastrophe qui s'est produite dans l'établissement important auquel Bernstein fait référence, les premiers efforts visant à établir des systèmes pour veiller à ce que cela n'arrive pas dans notre hôpital ont été déployés[3]. Le comité de la salle d'opération et le comité de gestion du pavillon de l'Hôpital Royal Victoria, à Montréal, ont accepté l'idée.