



Trauma Notes

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Tracheostomy At The Bedside: Time To Change The Gold Standard?

Tracheostomy was popularized by Jackson Chevalier Jackson in the early 20th century. Percutaneous tracheostomy was originally described by Sheldon in 1955, however it was not routinely used until the dilatational technique was reported by Ciaglia in 1985. Since its introduction the Ciaglia technique has been validated by multiple studies as equivalent to or better than open tracheostomy. The ability to perform a bedside procedure

obviates the potential morbidity as well as the cost associated with transport of critically ill patients to the operating room. A recent study published in the Journal of The American College of Surgeons looked at 1,000 patients who underwent bedside percutaneous tracheostomy. The conclusion was this it was a safe and cost-effective technique and one that should become the new gold standard for tracheostomy.

Article by Dr. William Simpson

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northern health
the northern way of caring

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Early Trauma Induced Coagulopathy (ETIC)

The coagulopathy associated with trauma and massive blood transfusion is partly a delayed effect of resuscitation due to dilution from resuscitation fluids, hypothermia and acidosis. It is now known 20-30% of patients with major trauma have a coagulopathy when they present to hospital.¹ This situation has been coined by some as Early Trauma Induced Coagulopathy (ETIC) and is predictive of increased mortality and morbidity. There is uncertainty about the mechanism of ETIC.²

Traditional teaching has been to give Fresh Frozen Plasma (FFP) and platelets later in resuscitation. There is now accumulating evidence patients do better with early use of FFP and platelets given in a ratio closer to that of whole blood.¹ Unfortunately, there are no good studies supporting any one protocol.^{3,4,5} Just started is PROMPTT,⁶ a large multi-institution prospective study designed to determine an optimum massive blood transfusion protocol for trauma patients.

In the meantime, the best evidence we have suggests giving FFP, platelets, and fibrinogen early in the resuscitation of any trauma patient with significant ongoing blood loss. There is also ongoing interest in goal directed therapy that uses Thromboelastography (TEG)^{1,3} to assess coagulation status and guide specific therapy. Still the most important treatment for an actively bleeding patient is definitive surgery, and the sooner the better.

Article by Dr. John Ascah



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What's The R.U.S.H.?

Our first rule in trauma resuscitation is to assume shock is due to hypovolemia. We should start by giving the patient 2L of normal saline and then proceed to giving blood. We have discovered in reviewing our charts that physicians often delay giving blood. In most cases, this is a mistake and patients may receive very large quantities of crystalloid.

However, there are other causes of shock in trauma that require different interventions. The RUSH exam (or Rapid Ultrasound for Shock and Hypotension) is an extension of the

FAST exam (Focused Abdominal Sonogram in Trauma).

RUSH allows quick evaluation of the **lungs, heart, and inferior vena cava**. It determines if shock is due to a problem in the PUMP, TANK or PIPES.

An obstructive cause (eg. pneumothorax, pericardial effusion), cardiac cause (eg. heart failure) or hypovolemic cause (eg. intra abdominal bleeding, hemothorax) may be the culprit.

The exam is rapid and easy to perform!

Article by Dr. John Ryan

RUSH Evaluation	Hypovolemic shock	Cardiogenic shock	Obstructive shock	Distributive shock
PUMP	Hypercontractile Small chamber	Hypocontractile Dilated	Hypercontractile Pericardial effusion RV strain Cardiac Thrombus	Hypercontractile (early sepsis) Hypocontractile (late sepsis)
TANK	Flat IVC Flat Jugular Peritoneal fluid Pleural fluid	Distended IVC Distended IJ Pulmonary edema (lung rockets) Pleural effusion Ascites	Distended IVC Distended IJ Pericardial effusion Pneumothorax (absent sliding)	Normal or small IVC Sepsis source (pleural or peritoneal fluid)
PIPES	Abdominal aneurysm	Normal	DVT (PE)	Normal

Northern Trauma Accreditation

We are excited to announce that Northern Health is seeking its first national trauma accreditation for our regional trauma service. The Northern Trauma Program will be hosting the Trauma Association of Canada (TAC) accreditors on **November 1st & 2nd, 2011**.

The primary purpose of the TAC Accreditation is not only to showcase our progress as an integrated Trauma System, but to also provide an opportunity for the accreditors to

“Bringing together those involved in the care of the injured patient to promote the highest standard of patient care, education, organization, and research in the field of injury”

Radiation Risks in Trauma Care

CT scans are ordered commonly and sometimes routinely for trauma patients to help diagnose treatable injuries however they come at a cost of radiation exposure to the patient. Some of this exposure may be avoided through careful consideration of which tests are really necessary. There is statistical evidence from epidemiological studies that 2 or 3 CT scans, resulting in a radiation dose of 30 to 90 mSv, result in a theoretical risk of cancer. This is especially true in children who are 1) inherently more sensitive and 2) have more remaining years of life during which radiation-induced cancer may develop. In contrast, by the age of 50, the risk of radiation-induced cancer is almost negligible (assuming no prior CTs have been done).

make recommendations to keep the system evolving towards excellence.

The proportion of trauma patients in the north is higher and outcomes are poorer in comparison to the rest of the province. The development of a comprehensive and inclusive trauma system for northern BC is a priority for Northern Health.

We look forward to working with our colleagues across the north as we prepare for the TAC accreditation team site visit **next week**.

It has been estimated that 0.4% of all cancers in the US may be attributed to CT radiation and this rate may rise to 1.5% to 2.0% with the current rate of increase in CT use.

A recent study from Toronto followed 172 trauma patients who underwent a mean of 5 CT scans and 14 x-ray examinations during their hospital stay, resulting in total radiation exposures of 22.7 mSv, but 58 mSv to the thyroid⁷. This translates (in theory) to 190 excess cancers per 100,000 patients or over 1 in 500.

TRAUMA TIDBIT

For any patient who is hypotensive, a trip to the CT scanner is unacceptable!



UPCOMING TRAUMA EDUCATION

TNCC

(TRAUMA NURSING CORE COURSE)
November 25th - 27th, 2011

ACLS Recertification

(ADVANCED CARDIAC LIFE SUPPORT)
January 2012

ACLS Provider

(ADVANCED CARDIAC LIFE SUPPORT)
February 2012

CAMAN

(COLLABORATIVE ADVANCED MANAGEMENT OF AIRWAY FOR NURSES)
February 2012

ENPC

(EMERGENCY NURSING PEDIATRIC COURSE)
June 2012

ATLS

(ADVANCED TRAUMA LIFE SUPPORT)
May 2012

We clinicians should be mindful of the radiation dose received during CT scans in trauma patients to attempt to reduce unnecessary exposure.

Does your patient really need the “trauma triple” or CT head, neck and chest? Or could plain films suffice? Or is clinical observation adequate? If in doubt, the American College of Radiology has developed “appropriateness criteria” for various radiological examinations which have been shown to reduce imaging rates by over 40% in certain circumstances. (These are available on-line at www.acr.org or on your mobile device through Skyscape.)

Article by Dr. Mike Smith

Injury Prevention: Stay On Your Feet!

One of the best ways to stay on your feet is to, *stay on your feet!* Whether you're grocery shopping, golfing, dancing, shoveling snow or playing leapfrog on the beach, staying active and keeping your body moving is a key factor in preventing falls.

Consider the statistics about seniors' falls:

- ✧ 1/3 of those over 65 years of age fall once or more per year
- ✧ almost 1/2 of admissions to long-term care facilities are fall-related

✧ 1/2 of the people who have a hip fracture never regain pre-fall levels of functioning

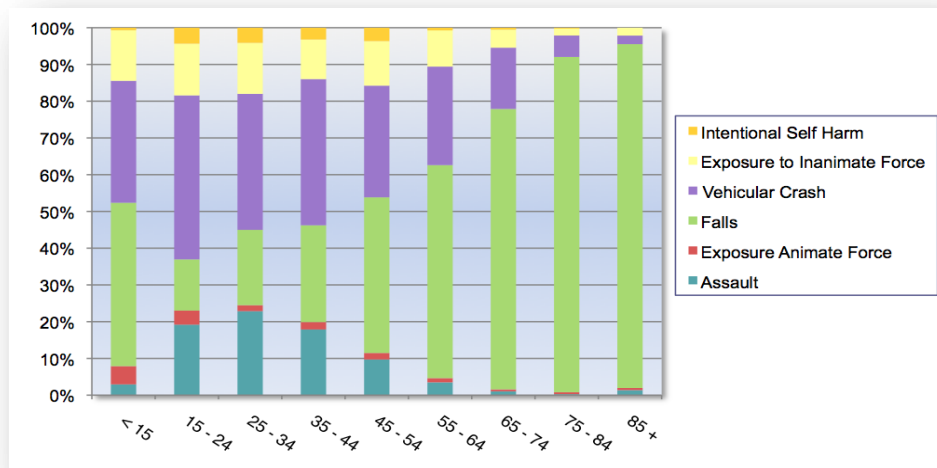
You'll be relieved to know there is an even greater number of practical things you can do to prevent falls.



THE STATS: Northern Facts

The Northern Trauma Program predominantly serves a population sustaining blunt force unintentional injury, consistent with the experience of most Canadian centres. Admissions for falls, especially in

the elderly, as well as motor vehicle collisions predominately in the early to middle years of life, continue to be the reason for a large percentage of trauma hospitalizations.



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"and the winner is.....Dr. Tim Olmstead"

New Advances in Orthopaedic Trauma: August 2011 Issue!!!

If you're a no-nonsense, just-tell-me-what-I-need-to-do type of person, here are the top things that you can do to prevent falls:

1. Be active
2. Take your time
3. Make your home safe
4. Have regular check-ups

November 7-13, 2011
will be proclaimed Seniors Falls
Prevention Awareness Week
in British Columbia

*Article by NH Population Health
Injury Prevention*



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FOR CONTACT INFORMATION VISIT

Northern Trauma Services Website:

<http://portal.northernhealth.ca/Browse/NHT/default.aspx>