TRANSFER ABCs

A - Airway	Intubated on arrival for GCS 5 (M3V1E1) - RSI - grade 1 view. Airway now patent, protected with size 8.5 ETT tube 22cm teeth and tied. Cervical collar in situ.
B - Breathing	Paralysed & on Volume Control TV 600 RR 12 R sided HTX and a 32 Fr intercostal catheter in place, drained 400ml blood. SpO2 now 96%
C - Circuln	Haemodynamically stable after 750ml crystalloid titrated to radial pulse in 250ml aliquots (permissive hypotension). HR 90 BP 74/50 Bleeding likely from HTX, abdomen and pelvis.
D - Disability & Drugs	M3V1E1 PEARLA initially, now M1VTE1 on propofol/vecuronium infusion. No localising signs
E - Exposure	R HTX drained as above. Abdomen tense and tender in LUQ, suspect splenic injury. No other injuries on log roll, pelvic binder applied. Warm blankets, Bair hugger, Warmed Fluids
F - Fluids	3 x 250ml crystalloid aliquots titrated to radial pulse (SBP 70) IDC in situ and drained 300ml clear urine
G - Gut	Last ate 7pm. NG passed and on free drainage.
H - Haem	Hb 114 on iStat, INR 1.0 No ACoTS Lactate 2.2
I - Infusions	Not on vasopressors On propofol & vec infusions for transport
J - JVP	Not elevated - no signs tPTX/tamponade.
K - Kelvin	Temp is 36 degrees with active warming
L - Lines	14G IV R wrist 8Fr rapid infuser L ACF
M - Micro	Has been given ADT
N - Notes/ NOK	His notes are in this envelope, including copies of plain X-rays NOK are aware and here are their contact details.

INTRANASAL MEDS

ANALGESIA

Fentanyl	2 mcg/kg
Ketamine	0.5 - 1.0 mg/kg (in adults use 1mg/kg)

SEDATION

Midazolam	0.5 mg/kg
Fentanyl	1.5 - 3.0 mcg/kg
Ketamine	1-2 mg/kg (up to 10 mg/kg)

SEIZURES

Midazolam	0.2 - 0.5 mg/kg (10mg in teenagers/adults)

OPIATE OVERDOSE

Naloxone	2mg (2ml)

EPISTAXIS

Oxymetazoline	1.0 - 2.0 ml to affected nostril (add lignocaine for cautery) then apply cottonwool soaked oxymetazoline & apply 'Buck Plug' nasal clamp

NB : USE MIN VOL eg 5mg/ml midazolam, 1mg/ml naloxone. Allow for 'dead space' - add 0.1ml per squirt

INTRANASAL DRUG ADMINISTRATION HAS POTENTIAL COMPLICATIONS OF SEDATION
MONITOR HR, BP, SpO2, RR, ETCO2 & RASS

ESTABLISH IV IF THERE IS ONGOING NEED FOR SEDATION-ANALGESIA-TREATMENT

ANAPHYLAXIS

Use IM adrenaline in advance of IV dosing

IM Adrenaline 1:1000 (1 mg/ml)
0.01 mg/kg to max 0.3-0.5 mg IM

Can repeat 5 minutely if not better or if worsening

AGE	DOSE ADRENALINE 1:1000 vial	VOLUME 1:1000/1ml
Adult	500 micrograms IM	0.5 ml
>12 yrs	500 micrograms IM	0.5 ml
6 -12 yrs	300 micrograms IM	0.3 ml
< 6 yrs	150 micrograms IM	0.15 ml

Don't forget to give normal saline 10-20ml/kg boluses for persistent hypotension. Salbutamol nebulisers may help with ongoing bronchospasm.

Patients on beta-blockers who do not respond to adrenaline may benefit from glucagon IV (20 to 30 mcg/kg up to a maximum of 1 mg).

IV adrenaline may be given if there is no resolution despite multiple doses of IM adrenaline — experts vary in their recommendations of how to give this. APLS guidelines suggest 0.1-5.0 micrograms/kg/min

If resistant, I prefer this simple approach:

- grab 1 mg of adrenaline 1:10,000 from the resus trolley
- inject into 1000 ml bag of normal saline
- start infusion at 1 ml/min, which is 1 microgram/min (this would be 0.1 micrograms/kg/min for a 10 kg child)
- increase rate until resolution of severe anaphylaxis

ASTHMA

STEP ONE
Continuous nebulised salbutamol
Nebulised ipratropium bromide
Hydrocortisone 200 mg IV (4mg/kg kids)
MgSO4 2g (50mg/kg max 2g) IV

if no improvement

STEP TWO
Adrenaline 0.5mg IM (0.01mg/kg) = 0.5ml 1:1000
Fluid bolus 20 ml/kg
CXR, ECG, VBG, Electrolytes, FBC

if no improvement consider NIPPV

AGITATED PATIENT
ketamine 1.5 mg/kg IV
over 30 secs
then 1 mg/kg/hr titrate to effect
if no IV, 5mg/kg IM

IF WORSENING
NIPPV
iPAP PS 8cm H2O
ePAP PEEP 3 cm H2O
continue nebuliser through NIPPV

COOPERATIVE PATIENT
NIPPV
iPAP PS 8cm H2O
ePAP PEEP 3 cm H2O
continue nebuliser through NIPPV

IF WORSENING
ketamine 1.5 mg/kg IV
over 30 secs
then 1 mg/kg/hr titrate to effect
if no IV, 5mg/kg IM

Consider the differentials
heart failure, ACS, arrhythmia, pulmonary embolism TENSION PTX, pericaridal tamponade, obstruction, foreign body, anaphlyaxis

AVOID INTUBATION IF POSSIBLE

PSYCH SEDATION

Immediate de-escalation; calm, quiet commands
Call CODE BLACK if concerns
Ensure safety - yourself, team, patient
Baseline obs inc HR-BP-Temp-RR-BP-BGL-RASS
Dress in hospital gown; bag & secure clothes.
Check bag/clothes for potential weapons, drugs, notes
Collateral history from friends/family/police
Assess suicidality / homicidality
CONSIDER A NICOTINE PATCH
Psych sedation is procedural sedation - risk/benefit

NO IV ACCESS	IV ACCESS
Olanzapine 10-20mg PO	Midazolam 2-5 mg IV titrate
Midazolam 10mg IM	Haloperidol 5 - 10 mg IV
Ketamine 4mg/kg IM	Ketamine 1 - 1.5 mg/kg IV

Repeat doses as necessary, target RASS score 0 to -3

The risk of apnoea should be anticipated

MANDATORY 1:1 NURSING
SUPPLEMENTAL OXYGEN AT ALL TIMES
ECG / NIBP / SpO2 MONITORING
ETCO2 if RECEIVED SEDATIVE
DISCUSS WITH DR re FREQUENCY OF OBS

EQUIPMENT TO MANAGE AIRWAY SHOULD BE IMMEDIATELY AVAILABLE

RASS

MAJOR BLEED

ACCESS TO THE CIRCULATION

Two wide bore IVs
Intraosseous or Cutdown or Rapid Infuser Catheter

PARAMETERS

Permissive hypotension MAP 65-70 mmHg may be acceptable (unless TBI/spinal injury/exsanguination)
t > 35, pH > 7.2, Lactate < 4, BE < -6

FIND THE BLEEDING, STOP THE BLEEDING

Minimise time to surgery
Tourniquets /Aortocaval compression fist/knee
Tamponade bleeding eg: pelvic binder, direct pressure, sutures, Foley catheter, RapidRhino,
Tranexamic acid 1g load in first HOUR then infusion
Prothrombinex and O Neg in fridge in ED

If PPH - Uterine massage, oxytocin infusion, ergometrine, misoprostol, TXA, Bakri balloon, B-lynch

Transfuse using enFLOW fluid warmer
Arterial line, consider Ca++ (citrate toxicity)

WARM FLUIDS / WARM THE ROOM
CATHETERISE THE BLADDER

MAJOR BLEED

ADJUNCTS

Tranexamic acid 1g load IV (resus trolley/Imprest)

Combat Application Tourniquet (windlass) or Biers block tourniquet or Sphyg cuff at >200mmHg

Israeli or OLAES bandage (in resus bay) - compression bandage with integral compression bar

Foley catheter to penetrating wounds eg: neck

Knee in groin (femoral artery)
or Fist (aortocaval compression)

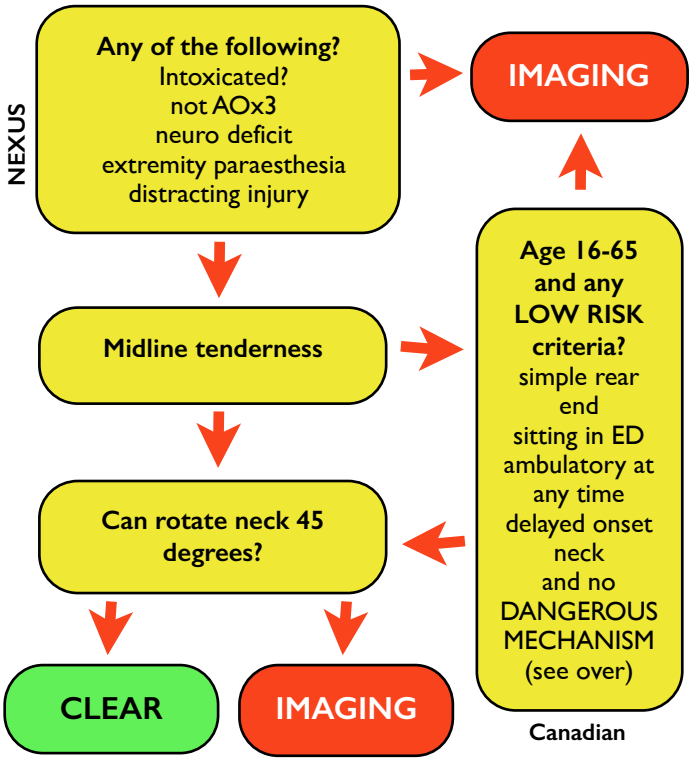
Sutures, Staples, Direct Pressure to lacerations

Pelvic binder (splint to skin)
Splint any suspected fractures (splint to skin)

WARM FLUIDS - WARM THE ROOM
Measure VBG and consider arterial line

BLOOD ON FLOOR & FOUR PLACES MORE

C SPINE DECISIONS



CCR-NEXUS COMBI

Dangerous Mechanism: fall from >3 ft or 5 stairs, an axial load to head, high speed (>60 mph) MVC, Rollover or Ejection MVC, Recreational Vehicle Collision, or Bicycle Collision.

Painful Distracting Injury: Including, but not limited to long bone fracture, visceral injury requiring surgical consultation, large laceration, de-gloving injury, crush injury, large burns, or any injury causing acute functional impairment.

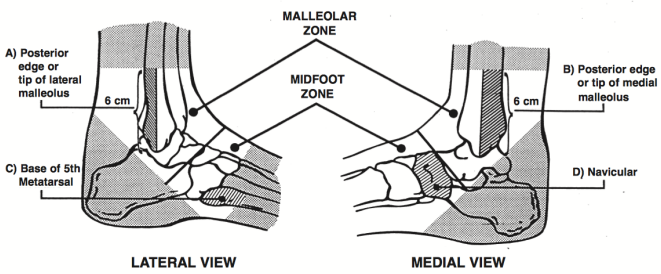
Midline Tenderness: in a 2cm band anywhere from the occiput to level of T1

Simple rear-end collision does not include: being pushed into oncoming traffic, being hit by a bus or large truck, rollover, being hit by a high-speed vehicle

Neck rotation: able to rotate neck 45° regardless of pain

CCR vs. Nexus: NEJM 349:26, Dec 25, 2003. Nexus : Annals EM 1992;21:1454-60. CCR : JAMA 2001;286:1841

OTTOWA ANKLE



a) An ankle x-ray series is only required if there is any pain in malleolar zone and any of these findings:
1. bone tenderness at A OR
2. bone tenderness at B OR
3. inability to bear weight both immediately and in ED

b) A foot x-ray series is only required if
there is any pain in mid-foot zone and any of these findings:
1. bone tenderness at C OR
2. bone tenderness at D OR
3. inability to bear weight both immediately and in ED

OTTOWA KNEE

Knee X-ray indications after acute knee injury:

- aged 55 years or over
- tenderness at the head of the fibula
- isolated tenderness of the patella
- inability to flex knee to 90 degrees
- inability to bear weight (defined as an inability to take four steps, ie. two steps on each leg, regardless of limping) immediately & at presentation

http://www.racgp.org.au/afp/2012/april/the-ottawa-knee-rules/