Trauma Manual Version 3 (2006) – Table of Contents

Table of Contents Continued

Phone Numbers

*****ALL HOSPITAL NUMBERS ARE 703-776-xxxx UNLESS WRITTEN OTHERWISE*****

Frequently used numbers

Dictation line 703-573-1077
Paging line 703-764-7310; to change page status 703-764-7311
Trauma ICU (ICU2) 3274
Med/Surg ICU (ICU1) 3748
NSICU (neuroscience) 2522
IMC 2488
PICU 6053__ PICU attending 6954
CVICU 3283
CCU 3296
PCCU 3338
eICU 703-207-2920

3 east (neuro) 3425	3 west (IMC) 2488
4 east (adolescents) 3566	4 west (short stay) 3221
6 east (ortho) 3611	6 west 3476
7 east 3214	7 west 3661
8 east 3311	8 west 3237
9 east 3783	9 west 3775
10 east 2234	10 west 5950

Psych 3491
Pediatrics: North (Rm. 505-518) 6052
South (Rm. 531-545) 6054
Oncology (Rm. 550-571) 6599
Pediatric surgical unit (Rm. 572-586) 3897
Trauma room 1: 536601
Trauma room 2: 536602
Trauma room 3: 536603
ER 3116
ER non-monitored side 2334
ER pediatric 3154
Comm RM 2930
OR 3316
OR charge nurse 6681
OR ambulatory (ASC) 5910

Administrative Director 6836
Anesthesia charge attending 6990
Anesthesia STAT: stat operator 3232 or MSET Pg 91460
CT scan 3692
IVR (interventional radiology) 3570
Pharmacy 2821; Hong Nguyen, PharmD x 2922, Pg 71643, Ph 5010
Medical Records 3641
Spanish Interpreter Spectralink 6835
Margie Avery, PCD, Trauma ICU 2311, Spectralink 5482

SCCS Attending 3933, Pg 03933
SCCS resident 3934 — Trauma Senior 3872 — Trauma intern 6658
General Surgery Consult Resident 5005, Pg (7am-5pm) 66878

Trauma Services Office
Ph. 2274, Fax: 3242
Joy Cowgill: Trauma Chief Admin Assistant, 3359
Rebekah Pyles & Sheila Colbert: coding & billing 3298

Trauma Surgeons/Surgical Critical Care
Fakhry: 6390, Pg 83923
Dwyer: 6883, Pg 82399
Michetti: 6379, Pg 10406
Seoudi: 6985, Pg 11145
Russo: 3926, Pg 85742
Rizzo: 7564, Pg 12115
Reines: 3871, office 3563, Pg 10560
Trauma Fellow: 7565, Pg 66703
Trauma Research Fellow: Pg. 04864

Trauma Team 4 General Surgeons
703-359-8640 (office)
Ahmed: Pg 87944
Brenner: Pg 80546
Edmiston: Pg 83708
Moynihan: Pg 86356
Walter: Pg 83444

Trauma Nurse Practitioner
Mary Duggan, 4107 Pg 76473

Trauma Clinical Nurse Specialists
Janet Mercer: 3932 or 6903, Pg. 71769
Donna York: 6903, Pg. 76858,
Christine Linder: 3932, Pg. 78241

Anesthesiology
Anesthesia Charge Attending 6990
Anesthesia scheduling non-OR cases 6998
Office 3138
Pain Service consults – Pg 61867
Pain Service Nurse – # 3889
Pain Management Clinic 703-208-6600

Cardiothoracic & Vascular Surgery (LSAMBGRCR + Mukherjee, Hashemi, et al.)
703-280-5858
Kiernan Pg 86480

Cardiology
Fairfax Heart Assoc.: DiLorenzo, Vergne, Castro: 703-204-9301

Northern VA Cardiology Assoc.: Raybuck, Kim, Sherber, Bon Tempo, Horton, Bussey, Collins: 703-698-8525 Inside ex. 3717
Cardiovascular Group: Levy, Cossa, Safko, et al: 703-281-1265
NP's: (Jennifer/Roz) 6668 or (MD in house cell – 6937)
Geloo 703-369-5959
Cindy Lee (703)-933-7060
Rogan (703)-698-6255, Pg. 80610
Arrhythmia Associates group practice: Friehling, Bell Pg 82922, Del Negro Pg 80201, Wish, Strouse
Electrophysiology lab: 703-849-0770, Fax. 703-849-0774

Computer/Phone support 703-764-7300, customer.support@inova.com

ENT
Fetter: 703-356-1465
Doyle: 703-573-7600 (Bahadori, Lee, McBride, Rubenstein)
Furst (703) 941-9552
Gurion (703) 536-2729

Emergency Department
Main desk: 3116
Non-monitored side: 2334
Pediatric ER: 3154
Main Office: 3195

Gastroenterology:
Gastroenterology Assoc. of NV:
Schenk, Merkin, Garone Pg 86328, Scudera: Pg 80925
Byungki, Kim: pg. 85413, Adams, Balba Pg 04719
703-698-8960, Back line for MDs: 703-698-1775
Hegab 703-551-6728, Pg 10299

GE/GI Lab at IFH 3544

Heme/Onc:
Robert, Beverage, Miller: 703-280-5396
Depti Patel: 703-280-0539

Infectious Disease:
Poretz, Morrison, Wheeler, Ambardar, Rixinger: 703-560-7900
Pfundstein: 703-671-1503
Schmidt: 703-246-9560, Pg 80886

Inova Fairfax Hospital Main number: 4001, 1110
Inova FFX Hospital for Children 4002
Inova Heart & Vascular Institute 4003

Interpreters for Spanish
IFH/IFHC/IHVI Mon-Fri 8:30am – 5:00pm: 6835, Pg 71010
Spectralink 5070 or 6835, Pg 78091

MCCS (Medical Critical Care Service)
Attending: 8927, Pg 88927
PA: 5040, Pg 66888
Call room: 3962

Medical Examiner (to report all deaths):
Northern VA District Office 703-764-4640

Trauma Medical Examiner Cases:
Dr. William Hauda, pager (703) 719-1116
Dr. Dave Zurowski, pager (888) 428-7947

Non-Trauma Medical Examiner Cases:
Dr. Kathy Katusha, pager (703) 215-0988
Dr. Sandra Tirado, pager (703) 214-9218

Medical Records 3641
Transcription 3596

Medicine, Department of
703-776-3582

Nephrology
Shabshab, Howard, Goldenberg: 703-360-3100
Mackow, Musio: 703-476-1740

Neurology
Cochran, Eberly, Sklar, Simon, Bicksel: 703-845-1500, 703-280-1234
Fishman: 703-313-9111 or 4945

Neurosurgery
Resident Spectralink: 6828, Pg 61447
Physician Assistants
Frank: Pg 76956
Christine Vorbau: Pg 78451
(**for Dr. Magram**) Jennifer Osgood: Pg 78131
(**for Dr. Melisi**) Fermin Cabezes: Pg 703-213-5005
GW University Dept. of Neurosurgery 202-741-2750
Azzam 703-551-4113, 703-205-6211
Caputy (G.W.) 202-741-2735
French 703-641-4877, Pg 88358
Leiphart (G.W.) 202-741-2735
Lee 703-780-7908, Pg 703 755-1459
Gorsen 703-573-4700
Jebraili 703-698-6155
Nguyen 703-876-4270, Pg 84789
Magram 703-970-2600, Pg 10651 (PA # above)
Melisi 703-208-0820, Pg 703-213-8477 (PA # above)
Rosemblat 703-241-8989, Pg 86384
Watson 703-208-2500, Pg 12768

OB-GYN
Dr Mecklenburg Pg 86141
OB/Surgery clinic 3418, 2819
OB Chief resident 3992
Gyn resident 6884
Karina Jimenez, breast health counselor Pg 76787

OMFS
Patterson 703-534-6500
Cantor, Labriola, Lee: 703-256-2307
Foretich 703-893-8800
Schiff: 703-934-5993

Ophthalmology
M. VonFricken (section chief): 703-776-9335
Zamani: 703-281-5885
Melki: 301-279-9123
Seidman 703-534-3900
S. Rostami: 571-203-1300
Parelhoff 703-451-6111
Patnaik 703-790-1780
Gadol: 703-451-6111

Orthopedic Surgery
Resident or PA Pg 61182
Betsy Pg. 68303 5479
Albert Pg. 66060 5430
Emily Pt. 68208 5431
Cheryl Pg. 78302 5472
Bruno 703-442-8301
Childs 703-573-7168, Vm. 703 478-6259
Lotfi 703-897-6060
Delenick 703-358-8222
Edwards 703-971-3701/ 301-856-1682, ext.231/2, Pg.301-545-7873
Hanway 703-573-7168, Pg. 82621
Hamilton 703-892-6500, Pg.703-701-0146
Haque 202-444-8766, Pg 11596, 202-668-1747
Hawken 703-560-9495
Hughes 301-802-2189 (NP 703-819-1445)

Inova Orthopedic Surgeons: (703) 970-2670
Hymes Pg. 10716
Malekzedah Pg. 12489
Schwartzbach Pg. 81542
A. Kebaish 703-506-4700 Pg. 80362
K. Kebaish 410-283-9130
Kennedy 703-560-9495
Lane 703-573-7168
Neufeld 703-892-6500
Patel 703-471-5300
Reing 703-573-2219 opt #3
Siddiqui : 703-369-9070/ (703-458-2679 Cell)
Theiss 703-573-2218, Pg. 86956
Vitek 703-573-7168
White 703-671-2225
Kaiser Dr.: 1-888-989-1144, 703-359-7460
(Jackson/Krisztinicz/Kaplan/Hirschhorn
Dewey/Cornish/Chetta/Stephens/Shirali)

Orthotic Solutions: 703-849-9200
Infinity Orthotics: 703-807-5899 (Joe Smith 703-218-9234)

Orthopedic Technician: Pg. 71269

Ostomy & Wound Care Nurses
General number 6989
Dot 5484 —- Joanna 5463 —- Nancy 6989 —- Sandi 2117

Pathology 3441

Patient Relations 3663

Pharmacy
Pharmacy 2821
Hong Nguyen, ICU PharmD Spectralink 5010, x2922, Pg.71643

Plastic Surgery

Baker 202-444-7243, Pg 202-490-0365
Barlow 703-560-8844, Pg 703-702-5015
Bitar 703-206-0506, Cell 703-862-3415
Bruno 800-204-3949
Davison 202-668-3086
Dennis (Howard) 202-865-1286
Desman 703-289-1000, Pg 703-612-0007
Dufresne Craig: 301-654-9151
Ducic, Ivica: 202-444-8929
Forman 301-881-7770
Gottlieb 703-264-0904
Hess 703-752-6608
Jabs 301-493-4334
Klein Pg 11647
Marefat 703-560-9583
Morse 703-757-6190, Pg 888-524-3418
Richards 703-506-0683
Saba 703-723-4440, Pg 703-702-1680
Suh 703-846-0097
Tattelbaum 703-442-4919
Watkins 301-656-6398/754-2503
Yang 301-656-6398
Zahir 703-208-0783, Pg.1-888-930-5184

PM&R

Dr. Shin: 6086, Pg. 85845
Dr Vinn (kaiser): 703-922-1448
Pediatric PM&R, Dr. Im: 703-204-6086, Pg.11520

Psychiatry 3626

Pulmonary

Abu-hamda (703) 538-2588 Pg. 10057
Dicicco's group: (703) 391-8804
Lamberti's group (703) 641-8616

Radiology Department

File Room 3240
Main Xray 3161
Core 533382
CT 3692
CT in ER 2179
MRI #1 2744 #2 7640
MRI breast coordinator 703-698-4488
IVR 3570
IVR door 314
IVR Physician Assistant Deirdre 3816
IVR scheduling 3241
Ultrasound 3511
Nuclear Medicine 3489
Pediatrics 3498
Reading room: plain films 3707
Reading room: neuro CT 4169
Reading room: body CT 3796
Fairfax Radiology Breast Center 703-698-4455

Radiology Department Cont.

Radiology Report Line: follow this number sequence
703-698-4355, (security code) **000-99#1,**
then choose one of the following codes, followed by-**mm-dd-yyyy.**
Plain xrays: **1** IVR & Fluoro: **2** MRI: **3** Preop: **4**
Ultrasound: **5** CT scan: **6** Nuclear Med: **7**

- Echocardiogram results: follow this number sequence -
301-721-4360 then, 6#, 8000#, 3, then 7 digit MR number, followed by #

Respiratory Therapy
Team leader 2229
Bronchoscopy scheduling: 3462

Risk Management 2789

S.A.N.E. (sexual assault nurse examiner)
voice mail: 6888 **office:** 3503 **exam room:** 6666

Social Work
Tom Mulligan: 71352, Marsha McBride: pg. 71348, Donna Rotondo: 70135

Urology
Ball et al: 703-208-4200, Pg. 81635
Urology resident Pg. #: contact ER daily call schedule
#61180, #61181, #61496

VCU School of Medicine
Inova Campus Dean's Office/Administrative Coordinator 6699
Academic coordinator: Sarina Luangkhot 3249

CATS (Comprehensive Addiction Treatment Services)
703-776-7777

Case Managers
3rd floor: Diana Villalobos, RN: ext. 8637, Pg 71802
6th floor: Sue Winfield, RN ext. 3460, Pg 73022
Susan Sumner ext 3604, Pg 76808
7th floor: Judy Lang, ext 3431, Pg 73896
Weekend case managers: Nancy Czarsty ext 538394

Anna Bradford: REBUILD program manager, ext. 2295, pg. 73155

Inova Home Health
703-916-2800
fax: 703-916-2984

Apria/Home Health Equipment Co.:
703-642-3141
Private # for weekend equipment manger:571-238-2905 (Heather)
fax: 703-642-2828

Roberts Home Medical: 703-358-8018

WRTC (Washington Regional Transplant Consortium): 703-641-0100

OTHER FACILITIES
Bethesda Naval Medical Center: MD transfers: 866-666-2362
Admissions coordinators: Ann Cobb, 301-319-4593; Barbara Ingram 301-295-2968

Critical Care Medflight: Jeff Gustafson,1-800-426-6557
Lawrenceville, GA 30446, Lear & King air 8200

City Hospital
Dry Run Tavern Rd, Martinsburg W. VA, 25401
Cindy St. Myer, 304-264-1000 then page, 304-264-1328 fax.

Mt Vernon Hospital
Fax: 703-664-7535
Linda McGraw coordinator: pg. 78542, # 703-664-7595
In Pt. Rehab units: 703-664-7343 A, Fax: 703-664-7535
703-664-7345 B, Fax: 703-664-7511
Mt Vernon Inpatient Y: 703-664-7052

Tricare Referrals/ HealthNet
Sue Bomar, utilization review, 571-227-6509

Virginia Hospital Center (Arlington VA)
Vent coordinator: Susan Schwartz: Pg. 1 888-924-8152 or 703-558-5361

Walter Reed Army Medical Center 202-782-3501

INOVA FAIRFAX HOSPITAL SURGERY RESIDENTS 2005-2006

PGY 5
George Akingba Pg. 66873
Christine Hanaway Pg. 66874
PGY 4
Tayseer Aldaghlas Pg. 66870
Chip Malin Pg. 66871
Stanley Okosun Pg. 66872
PGY 3
Alaa (Al) Al-Hazmi Pg. 66880
Nandita (Reena) Chhitwal Pg. 66882
Daniela Schupp Pg. 66886
PFY 2
Tom Boro Pg. 66885
Joseph Sakran Pg. 66884
Stephanie Nitzschke Pg. 66881
PGY 1
Louis Lee Pg. 78483
Kellia Schmidt Pg. 78482
Vaishali Trivedi Pg. 78484

Trauma Senior 3872
SCCS Resident 3934
General Surgery Senior 5005
Trauma Junior 6658

Nurse Practitioners
Mary Duggan Pg 76473
Bob Rowell NP Pg 76905
Beverly O'Brian NP Pg. 76644
Kristen Rupell NP Pg. 76512

House Officers
Dr. Peter Danton Pg. 81776
Dr. Jose Rivera Pg 84287

Trauma Resident & Student Orientation

Who's who

Full time trauma team: Drs. Fakhry (chief), Dwyer (assoc. chief), Michetti, Seoudi, Russo, Rizzo
Dr. Reines: vice chairman of surgery, Team 1 surgery
Mary Duggan: Trauma nurse practitioner
Trauma Clinical Nurse Specialists (TCPS): Janet Mercer, Donna York, Christine Linder
Team 1: all of the above
Team 4: general surgery group, takes trauma call on Sunday, Tuesday night; Drs. Moynihan, Walter, Ahmed, Edmiston, Brenner
SCCS (surgical critical care service): = team 1 attendings); SCCS attendings are in-house 24hrs a day

Trauma Bay

1. Definitions:
   Code Yellow: patient meets trauma criteria by mechanism of injury
   Code Blue: trauma patient with shock, airway problem, coma, paralysis, crush, penetrating torso/head wounds
   Code White: trauma patient with CPR in progress prior to admission
2. Yellow vs. Blue:

	Code Yellow	Code Blue
Responders	Trauma team, trauma attending, ED attending, ED nurse, recording nurse, xray tech	Trauma team, trauma attending, ED attending, anesthesiologist, resp. therapist; ED, ICU, & recording nurses, xray tech, OR held open
Trauma Team	1st code: ED ward resident, ward/ICU student 2nd code: Senior surgery res, ICU res, student	Senior surgery resident, SCCS resident, ward/ICU student
Dress	Gloves, lead gown	Hat, mask, gown, lead, gloves, shoe covers
Labs	**None**	Routine set: cbc, chem, coags, t&cx2, ABG, EtOH, Utox
Xrays	As needed; CXR for all blunt trauma	CXR, pelvis, lateral C, T, & L spine

3. Upgrading*/downgrading of codes may be suggested by senior residents when indicated, but is a Trauma/ED attending decision. Downgrading of codes to consults should be determined in the first few minutes of the code, not after the workup is completed.
   * Indications for upgrade to Blue: any intubation, hemodynamic instability, declining mental status, OR needed stat
4. Senior's role in codes:
   - identify self to nurses and EMS as team leader
   - listen to report: MESSAGE (*M*echanism, *E*valuation, *S*ystolic bp, signs of *S*hock?, *A*irway, *G*CS, *E*xtras{iv's, meds, etc})
   - **A**(can they talk?) **B**(breath sounds) **C**(feel radial pulse, stop bleeding, iv's) **D**(moving x 4, GCS, pupils) **E**(remove ALL clothes, jewelry; cover with blankets)
   - Secondary survey, order xrays, dictate pace of the code expeditiously, watch vitals & fluids repeatedly
   - Call out exam to recording nurse as you do it
   - Assign roles to junior residents and students, teach, learn
   - Personally review all xrays and CTs
   - Report findings and proposed plan to trauma attending
   - Ensure completeness and accuracy of written H&P

- Develop leadership, organizational, and decision-making skills
- **SIGN OUT patients from your overnight call to the SCCS resident or the admitting attending's team in the morning**
- **Maintain patient lists on TICU computer**

5. Junior resident's role in codes:
   - help with patient transfer, exposure, and other care as dictated by team leader
   - review all physical and xray findings
   - Fill out written H&P form
   - learn how to run a code, how to recognize and treat injuries and shock
   - **Maintain patient lists on TICU computer**
6. Student's role in codes:
   - help with patient transfer, exposure, and other care as dictated by team leader
   - review all physical and xray findings with senior or attending
   - stamp patient's name & MR# on each sheet, sign and date each sheet
7. First progress note form (orange stripe): circle xrays completed and fill in BRIEF report of radiologists findings
8. Please replace lead xray aprons on the rack and not the floor (cracks the lead), and don't take them from the ED.
9. C-spine clearance
   - Cervical spine may be clinically cleared, regardless of mechanism, if the patient meets 5 criteria: no neck pain, no neck tenderness, no neurologic abnormalities, alert and not altered by drugs or alcohol, no significant distracting pain. These patients should not have ANY Cspine xrays.
   - Do not remove collar immediately if cleared; wait until 2nd normal exam, after patient has time to settle
   - Trauma or ER attending must confirm exam before clinical clearance; this must be documented
   - If Cspine is cleared AFTER the trauma bay resuscitation, it requires a NOTE and ORDER in the chart
   - Only MDs may clear spines
10. Patients with LOC or amnesia get a head CT
11. Pelvis xrays may be omitted on blunt trauma patients with non-severe mechanisms and no pelvic pain, tenderness, or bruises, or STABLE patients who are getting an abdominal CT. Caution in elderly or kids.
12. Residents and students should strive to maintain a good working relationship with ED and ICU staff from day one. It helps to introduce your self, and to "ask" instead of ordering. Disagreements should be discussed respectfully *outside of patient care areas*. Confrontational behavior, especially in front of patients or families, is unacceptable. Remember that the reputation you establish in your first week will stay with you, good or bad.

Code, On-call, and Rounding Responsibilities

13. Codes
    - Code Blue: Senior surgery res, SCCS resident who is not post- or on-call ("non-call"); med student
    - 1st Code Yellow: ER resident from ward, student
    - 2 simultaneous Codes: Senior will see one, non-call ICU resident will see other, intern will respond and will be assigned to a room; a student should be assigned to each code.
    - The resident who runs the code will remain primarily responsible for that patient and their workup to completion, including orders, ensuring H&P is done, and reporting final results of all films/tests to the attending

- ANY resident or student leaving a trauma to go to rounds, the OR, or anywhere else must first notify the trauma attending at the code. Likewise any resident or student leaving rounds to go to a code, must inform the rounding attending.
- An H&P form is to be completed on every code or consult.

14. On-call responsibilities (5pm – 7pm weekdays, all day weekends and holidays)
    - The senior resident is primarily responsible for the trauma codes and all consults
    - The SCCS resident is primarily responsible for the ICU patients
    - The entire trauma team (senior, SCCS, and student) should respond to all codes.
    - ICU patients needing attention will be seen by the SCCS resident
    - Although the senior and SCCS resident have the above primary responsibilities, if either is busy with a patient, he/she may ask the other to take over his/her responsibilities (e.g. if the senior is in the OR, then he/she may ask the SCCS resident to see consults in the ER until the senior is out).
    - New admissions must be added to the SCCS or ward list in Trauma ICU by the resident who runs the code.
    - All new overnight admissions **must be signed out** by the on call team to the on call SCCS resident (or if Team 4 is on call, to that service's senior resident) the next morning. This is mandatory!
15. Floor responsibilities
    - Floor residents and students should round on their patients and write notes prior to Morning Report at 8:00 a.m.
    - The Nurse Practitioner rounds in the IMC Monday-Friday, and signs out to the SCCS resident at the end of the day.
    - Attending walk rounds take place after Morning Report. The floor team, including the senior resident, is expected to carry out the plans established by the attending and team on rounds that morning. Any xrays or labs ordered should be checked by the resident/student on the team, and significant results reported to the rounding attending before 5 p.m.
    - Any pending result or work that is not completed by 5 p.m. should be signed out to the junior resident or intern on call for trauma for the floors (not the SCCS resident).
    - The rounding attending should be notified of any unfinished business before the team leaves for the night.
    - Team One General Surgery patients on the ward are to be covered by the junior trauma resident on call, not the general surgery resident on call. If, however, the general surgery resident is called by the ward nurse, they are expected to handle the question/problem appropriately.
    - The floor team is expected to be in house until at least 5 p.m., unless they are post-call. Post-call residents must notify the rounding attending before leaving for the day.
    - If some members of the floor team are called away during rounds (e.g. for codes), they should contact the members that remained on rounds to get report on what needs to be done. If all members have been called away, call the TCPS nurse for this report, or the rounding attending.
16. ICU responsibilities
    - The SCCS residents on call should receive a sign out on all the ICU patients at the end of the day by the ICU team, and should receive sign-in the following morning of all new admissions from the on call team
    - Plans established on rounds are to be carried out by the SCCS team and reported, if necessary, to the SCCS attending before 5 p.m.
    - Any pending result or work that is not completed by 5 p.m. should be signed out to the SCCS resident on call. The SCCS attending should be notified of any unfinished business before the team leaves for the night.
    - Post-call residents MUST notify the SCCS attending before leaving for the day.

- The SCCS residents round on the IMC on weekends.
- Patients in the ICU or IMC for 7 or more days require a dictated interim summary, which briefly but concisely describes their ICU course. This serves to inform the floor team of pertinent issues, and also decreases the length of the final discharge summary.

17. Senior Resident Administrative responsibilities
    - Oversees entire resident & student team\
    - Upholds the professionalism of the team, assigns duties when priorities conflict, settles disputes, ensures clinic is covered.
    - Establishes days off and weekends off at the beginning of each month, while ensuring that rounds are covered. On weekends, there should be enough residents & students rounding to see the patients in a timely manner. An "off" weekend is a bonus, not a right or a rule, and on occasion a resident may be asked to round on a weekend morning for the benefit of the patients and the team. If the service is busy, the plan for resident rounds coverage must be run through the ROUNDING ATTENDING.
18. Rounding Routines on Weekends & Holidays
    - Ensure that attendings are notified in advance about resident or student absences. Notify the Rounding Attending for the week during which the absence will occur.
    - For ICU: there are 2 rounders on Sat & Sun, the post-call SCCS resident and on-call SCCS resident. The post-call SCCS resident will sign out to the SCCS ATTENDING after his/her patients are seen & notes are written.
    - For the Floor: This is variable, but at least 1 resident must be available for morning rounds on Sat & Sun. If the service is busy, it is expected that the residents work out (fairly) who will come in for a few hours in the morning to help round. Again, residents must SIGN OUT to the ROUNDING ATTENDING before leaving.

Admission, Transfer, & Discharge

19. Trauma patients stay on trauma service at least 24 hours unless stated otherwise by trauma attending; pre and post op responsibilities for ANY operation on a trauma patient belong to the trauma team
20. ICU and TBI patients have specific order sheets
21. Admission to other floors:
    - IMC: patients who need a level of care just below ICU
    - Neuro observation unit (neuro obs): patients who need continuous neuro monitoring, agitated, fall risk
    - Neuro floor: patients who need q1hour neuro checks
    - short stay: for 23hr observation. Write "short stay observation status"; do not write "admit…"
    - 6th (ortho) or 7th floor: for admission >24 hours, and do not need the above units' level of care
22. Discharge from ED:
    - Trauma team is responsible for completing the workup, including f/u on xray results
    - If patient is cleared for discharge from the ED, a note must be written in the chart. Write "patient clear from trauma standpoint, *recommend* discharge per ED. Follow up with family doctor" (or f/u in trauma clinic if patient has an injury that needs our attention)
    - Notify ED attending personally when patient is clear for discharge
23. Transfer from unit to unit:
    - Transfer order sheets should be used
    - Medications must be printed from the computer (IDX) system and renewed or d/c'd on that printed form
    - Order appropriate activity for patients, do not put bedrest unless specifically indicated

- Order appropriate diet for patients, either NPO, regular, or tube feeds. "Clears" should be a rare order.

24. Discharge from floor:
    - Discharge summaries are needed for patients admitted >48 hours. They should be dictated by an MD before the patient is discharged. Students may write a summary if it is their patient, but this should be dictated from the written version by the resident, since students cannot do dictations. Summaries should be brief but concise, and include: admitting attending, date of admit & discharge, mechanism, list of all injuries and diagnoses, *significant* events during hospital stay, consultants, operations or procedures the patient had, discharge destination, discharge meds, follow-up plan.

      The summary should NOT include day to day care, only significant topics and treatments (e.g. "the patient was treated for Staph aureus pneumonia with Levofloxacin", not "the patient developed a fever, xray showed an infiltrate on day 6, he was given anitbiotics for 5 days and his fever got better…)
    - The summary may be the continuation of the ICU and IMC interim summaries. If interim summaries have not been done, a full hospital course summary is required.
    - Fill out Discharge Instruction Form, using non-medical language
    - Include names/numbers of doctors with whom follow-up is needed. Always put the admitting trauma surgeon's name and number on the sheet (not the rounding attending).
    - Tear off the pink copy and give it to the Trauma Office, attending, or TCPS nurse.

Trauma Team

25. Every trauma patient must get a **TERTIARY SURVEY** the morning after admission, which is a complete physical exam to look for missed injuries, including palpation and range of motion of all bones/joints and entire spine. Must be documented as a progress note.
26. Use template notes for all trauma patient daily notes (ICU/IMC and floors)
27. Notes should contain: time, date, HD, POD, signature, pager#, patient name & MR# at bottom. Please be legible!
28. **Documentation is mandatory for all procedures, events, and interactions with patients**
29. **Notify attendings of all major events, deterioration of patient status, or major changes in plans**
30. Care of students' patients must be overseen by a resident
31. All procedures must be supervised by an attending or senior resident
32. Rounds:
    - Patients are seen and notes written prior to morning report
    - Team 1 morning report is at 0800 in the Trauma lounge near Trauma ICU except on Wednesday, when it is after M&M at 0830
    - In report, give a BRIEF summary of the patient's mechanism & injuries (e.g. Mr. X is the 21 year old in an MVC with Grade 3 spleen injury and pneumothorax), then report the major issues and plan for the patient
    - After report, the SCCS attending rounds with the ICU team, and the Floor Attending rounds with the senior, intern, students, and floor TCPS nurse.
33. Residents must sign out the patients to the on-call resident, and receive sign-in in the morning.
34. On-call responsibilities:
    - the senior surgery resident (phone 3872) will see all trauma codes and do all trauma consults
    - the SCCS resident (phone #3934) will take all calls about ANY surgery patients (not just trauma patients) in any Critical Care unit.
    - Answer phone as "SCCS resident" for 3934.

- It is expected that the residents will help each other out if one person is overburdened; e.g. the SCCS resident can see a consult if the senior is in the OR.

35. Operative notes
    - Always include indications for operation/history
    - List operating resident as "resident surgeon" not assistant
    - Dictate immediately
36. Conferences
    - Critical Care Forum 11:00 Monday (trauma team mandatory, others welcome)
    - M&M/ grand rounds 7:30 Wednesday (all residents & students)
37. Trauma Clinic:
    - Monday at 1:00 at Prosperity clinic; one trauma resident must attend
    - Friday at 1:00, 1st floor Original Bldg, behind the café; ALL TRAUMA RESIDENTS must attend

Trauma Service Routines

1. PROTOCOLS - Protocols exist for Cspine clearance, VTE prophylaxis, stress ulcer prophylaxis, insulin drip, ventilator initiation, ARDS, VAP, fever work-up, electrolyte replacement, sedation & analgesia, TBI. They are in the TRAUMA MANUAL. Please use these protocols, and complete the order sheets for them when required.
2. PATIENT LISTS - All patients, admission or consult, should be added to the patient lists upon admission. Residents are responsible for maintaining and updating the list, except for the section under Current Diagnoses/Active Issues which will be maintained by the attendings.
3. LABS/XRAYS - Daily labs or CXRs are unnecessary and costly and should not be ordered. Labs should be ordered for specific indications. Presence of an ET tube does not require daily CXRs or ABGs. Patients with blunt solid organ injury may have, at most, serial H&H for 24 hours.
4. Phones must always be on, charged, and in your possession at all times (not in a coat on the rack), even in the trauma bay.
5. GASTRITIS PROPHYLAXIS - Indications for stress ulcer prophylaxis are: intubation in ICU >48hours, sepsis, shock. Stress ulcers result from ischemia, not acid or NPO status. *Floor patients should not receive prophylaxis*. Order of preference for prophylaxis is: tube feeds, Sucralfate, H2 blockers, PPIs.
6. VTE PROPHYLAXIS - Lovenox 30mg sq Q12 hours is the standard VTE prophylaxis for trauma patients if there is no contraindication (talk to attending) to its use (see protocol). There is no need for TEDS/SCDs in patients on Lovenox. Heparin may be used in general surgery patients, but not trauma patients. SCDs may be used on high-risk patients who can't receive Lovenox.
7. C-SPINE CLEARANCE - Patients who cannot be clinically cleared of Cspine injury require lateral (to T1), AP, and odontoid views. Usually the lateral is done in the trauma bay, and the others done afterwards. If patients are still tender or have pain after the trauma resuscitation, they require the 3 views + flexion/extension films. These should be ordered as follows, assuming the lateral view is done: "*AP & odontoid Cspine xrays. If xrays are read as negative by the radiologist, tech may remove collar and do flexion/extension xrays. Replace collar when done.*" This prevents calls to residents to remove collars.
8. C-SPINE CLEARANCE - Until a patient's full spine is cleared, they must remain flat in bed. They may be in reverse Trendelenberg position. Until their neck is cleared, they must wear a collar. If a patient's neck is not going to be cleared in 24 hours, order an Aspen collar, which is more comfortable. Aspens are expensive and should not be placed routinely.
9. BLUNT CERVICAL VASCULAR INJURY SCREENING – All patients meeting any of the following criteria (modified Denver Criteria, adapted from Biffl et al) should undergo a cervical CT Angiogram to screen for vascular injury (Eastman et al. J Trauma 2006;60:925-929):

- Any cervical spine fracture
- Basilar skull fracture
- *Severe* facial fracture (LeForte 2 or 3)
- Lateralizing neuro deficit not explained by head CT
- GCS <8 not explained by head CT
- Infarct on head CT
- Nonexpanding neck hematoma
- Seatbelt sign above clavicle
- Cervical bruit or thrill
- Massive epistaxis
- Anisocoria / Horner's syndrome

10. NARCOTICS & SEDATION - Sedation and pain control in the ICU are done with lorazepam (Ativan) and morphine. I.V. pain control for floor patients is done with morphine. Demerol is not used except in specific circumstances. I.M. meds should almost never be given, since this is painful for patients and there are many alternatives. To consult Anesthesia for a PCA, write "consult pain service for PCA". If you write "consult pain service" only, you will get a full, detailed consult which is more time consuming, unnecessary, and more costly to the patient. (Unless you want a full consult for another reason, e.g. overall pain control, narcotic addicts, etc.).
11. STERILE PROCEDURE - All invasive procedures (central and arterial lines, chest tubes, DPL, etc.) require full gown, glove, hat, and mask per hospital policy and CDC guidelines. Only in an absolute emergency are gloves alone acceptable.
12. PROCEDURE NOTES - The "Physician's Procedure Note" form should be completed for all procedures.

Numbers

SCCS attending: 24hrs a day - phone 3933, pager 03933
SCCS resident: 24hrs a day - phone 3934
Dr. Fakhry: phone 6390, pager 83923
Dr. Dwyer: phone 6883, pager 82399
Dr. Michetti: phone 6379, pager 10406
Dr. Seoudi: phone 6985, pager 11145
Dr. Russo: phone 3926, pager 85742
Dr. Rizzo: phone 7564, pager 12115
TCPS nurses Janet Mercer, Donna York, Christine Linder: phone 6309 or 3932
Mary Duggan: phone 4107, pager 76473
Trauma office: 703-698-3359 / 2274

Trauma Surgery/Critical Care Resources

1. CD with journal articles provided by Trauma Services (see Dr. Rizzo)
2. Trauma Management Guidelines – www.east.org, Eastern Assoc. for the Surgery of Trauma
3. ACS Surgery – online under Library on Inovanet or in Dept. of Surgery office
4. AAST website – www.aast.org, American Assoc. for the Surgery of Trauma
5. Multiple textbooks available in Trauma Services in MDs' offices

DISCHARGE PROCESS

Dictation line: 703-573-1077, press "2" for discharge summary

1. Discharge Summary Format :

- TIP: The discharge summary is NOT a day by day recount of the hospital stay, NOR is it an H&P that lists an HPI, physical exam, etc. It is a summary of only the major, pertinent findings from the hospital course.

a. Dictating doctor's name & date of dictation
b. Patient Name & Medical Record number
c. Admit date & Discharge date
d. Admit Attending
e. Consultants
f. Numbered List of Discharge **Diagnoses & Injuries**
g. *Brief* narrative summary of mechanism of injury, treatments, major procedures and operations, complications, and major events
h. Discharge disposition (home, rehab, etc.)
i. Discharge Medications and doses
j. Follow up instructions (what MD and when)

2. Discharge from the E.D. :

- Trauma team is responsible for completing the workup, including f/u on xray results
- Requires senior resident or attending NOTE in top left corner of p.2 of "ED patient record":
- Write "patient clear from trauma standpoint, *recommend* discharge per ED. Follow up with family doctor" (or f/u with Dr. [trauma surgeon] if patient has an injury that needs our attention)
- Patients without significant injuries should see their primary doctor and do not need trauma follow-upnotify ED attending personally when patient is clear for discharge

3. Discharge from the floor :

- Do discharge summary. Discharge summaries are needed for patients admitted >24 hours. They should be dictated by an MD before the patient is discharged. Students may write a summary for their patient, but the resident should dictate this from the written version. Summaries should be brief but concise (see below). The summary should NOT include day to day care, only significant topics and treatments (e.g. say "the patient was treated for Staph aureus pneumonia with Levofloxacin", instead of "the patient developed a fever, xray showed an infiltrate on day 6, he was given antibiotics for 5 days and his fever got better, etc…)
- Fill out discharge instruction form, using non-medical language
- Include names/numbers of doctors with whom follow-up is needed. Always put the admitting trauma surgeon's name and number on the sheet.
- Tear off the pink copy and give it to the Trauma Office, attending, or trauma clinical nurse specialist

PATIENT DISCHARGE INSTRUCTIONS
Inova Fairfax Hospital
Trauma Services (703)-776-2274

Date:_____

Diagnosis:_____

_____

Please contact the Physician's Office(s) listed below for a Follow-Up Appointment:

Physician	Specialty	Phone Number	You will need to be seen in:
Samir Fakhry, MD Kevin Dwyer, MD Christopher Michetti, MD Anne Rizzo, MD Eugene Russo, MD Hani Seoudi, MD	Trauma Surgery General Surgery Surgical Critical Care	703-776-2274	
John Moynihan, MD Robert Ahmed, MD Richard Brenner, MD Kirsten Edmiston, MD Barry Walter, MD	General Surgery Trauma Team 4	703-359-8640	
Cary Schwartbach, MD Robert Hymes, MD Alireza (Steve) Malekzadeh, MD	Orthopaedic Surgery	703-970-2670	

Activity	Weight Bearing				
☐ Independent	Right Arm	☐ Full	☐ Partial	☐ Toe Touch	☐ None
☐ Walk with assistance/device	Left Arm	☐ Full	☐ Partial	☐ Toe Touch	☐ None
	Right Leg	☐ Full	☐ Partial	☐ Toe Touch	☐ None
☐ Limited	Left Leg	☐ Full	☐ Partial	☐ Toe Touch	☐ None

Diet	Bathing	Restrictions
☐ Regular ☐ Other:	☐ Tub ☐ Shower ☐ Other:	☐ Do not drive until: ☐ Do not return to work/school until:

Medication	Quantity and Frequency	Quantity Prescribed
☐ Percocet (5/325)	Take _____ tablet(s) every _____ hours as needed for pain.	
☐		
☐		
☐		
☐		
☐		

☐ **Even if you feel better, take all of your antibiotics.** ☐ **Resume all previous medications.**

_____

_____

_____

Additional Instructions

When to call: Temperature greater than 101.5°F, pain that does not get better with the medicine ordered by the doctor, shortness of breath, wound gets red, numbness or the patient tingling.

If you have questions call Trauma Services at (703) 776-2274. For an emergency, call 911 or go to the nearest Emergency Room.

Pain Management:

☐ 1. Do not drink alcoholic beverages while taking this medication.
☐ 2. Do not drive a vehicle while taking this medication.
☐ 3. This medication may lead to constipation. To prevent constipation drink plenty of water and eat foods high in fiber. If necessary, you may use an over-the-counter laxative to treat constipation.

Head Injury:

☐ 4. Read the "Facts About Concussion and Brain Injury" booklet. In particular, page 4 (Adults) and/or the patient page 5 (Children) for Danger Signs to be aware of after a head injury. Do no take aspirin, ibuprofen (Advil, Motrin, Nuprin), naproxen (Aleve), or the patient blood thinners (anticoagulants) without approval from your doctor. These drugs may increase your chances of bleeding complications.

Incision Care:

☐ 5. If you are discharged with Sutures or the patient Staples, you will need to return to the clinic to have them removed. Report any opening in the skin at the incision site. If you are discharged with Steri-strips you may shower with them, do not pull them off. In time the edges will curl and they will fall off. Report any signs or the patient symptoms of an infection at the incision site which may include: redness, swelling, an increase of pain, an increase of temperature, or the patient pus (green or yellow).

Chest Tube Site Care:

☐ 6. Remove the dressing in _____ days and then you may shower. Do not sit in a bathtub of water until the chest wound is completely healed. It is normal to have some fluid ooze from the site. You may use a small dressing or the patient Band-Aid to cover the wound for several days to prevent drainage from soiling your clothing. Once you have no further drainage, leave the wound open to air. **Do not travel by airplane for one month.**

Spinal Immobilization:

☐ 7. You will go home wearing an ASPEN cervical collar. **You must wear the collar at all times,** even while showering and sleeping. Failure to do so may cause permanent, irreversible injury to your spinal cord. You should only remove it to change the pads. This must be done with the assistance of another person and with you lying flat in bed. It is very important that you do not move your head when the collar is off. See separate instruction sheet.

☐ 8. You will go home wearing a TLSO brace. **You must wear the brace at all times.** Failure to do so may cause permanent, irreversible injury to your spinal cord. Follow instructions closely regarding bathing and changing clothing worn under the brace.

Splenectomy:

☐ 9. Because your spleen has been removed, you may have difficulty fighting certain infections. Tell all your doctors, dentists, and healthcare workers that you no longer have your spleen. You may want to consider wearing a medic alert bracelet. Before you go home you will have received the Pneumococcal, Meningococcal, and H. influenzae vaccinations which should be repeated at intervals determined by your private physician. **Date vaccinations received:**_____

☐ **Medical Alert identification brochure given to patient.**

The Outpatient Clinic

- **Function**: To follow up on both Trauma and General Surgery patients after their discharge and to see new General Surgery patients. The clinic provides the opportunity to satisfy the requirements of the RRC and the Medical School for outpatient care.
- **Who should go**: One resident from the Trauma service and one Inova Fairfax Surgery resident from another Surgery team. All medical students are welcome.
- **When**: Every Monday from 1:00 PM to 4:00 PM.
- **Location**: 8503 Arlington Boulevard. Suite 200.
- **Directions**: Turn Left onto Gallows Road from the hospital;

  Turn Left onto Arlington Blvd (Route 50 West)

  Turn Left at 3rd light into Medical Complex and parking lot
- **Telephone**: (703) 970-2670
- **What to do**: The resident or student will obtain a brief history and a physical exam and present the patient to the attending who will then see the patient and discuss the case. Please ask for a female chaperon if you are examining a sensitive body part in a female patient. Please defer examination of a painful or sensitive part until the attending's evaluation so that the exam is done only once.
- The clinic is also used by the three Trauma Orthopedic Surgeons on the following days:

  Tuesday - Dr. Schwartzbach
  Wednesday- Dr. Hymes
  Thursday- Dr. Malekzadeh

GENERAL SURGERY RESIDENCY

Inova Fairfax Hosptial Surgery Residents 2006-2007

5th year:	George Akingba Pg. 66873
	Christine Hanaway Pg. 66874
4th year:	Tayseer Aldaghlas Pg. 66870
	Chip Malin Pg. 66871
	Stanley Okusun Pg. 66872
3rd year:	Alaa (Al) Al-Hazmi Pg. 66880
	Nandita (Reena) Chhitwal Pg. 66882
	Daniela Schupp Pg. 66886
2nd year:	Thomas Boro Pg. 66885
	Stephanie Nitzschke Pg. 66881
	Joseph Sakran Pg. 66884
1st year:	Louis Lee Pg. 78483
	Kellia Schmidt Pg. 78482
	Vaishali Trivedi Pg. 78484

Resident Work Hours Rules

1. Residents may work no more than 80 hours/week, averaged over a 4 week period, inclusive of all in-house activity
2. Residents must have a full 24 hours free of all in-house responsibility per 7 days, averaged over 4 weeks.
3. Residents must have at least 10 hours free between all daily on-duty periods.
4. Residents may do in-house call no more than every 3rd night, averaged over 4 weeks.
5. Residents have a 24-hour limit on continuous in-house activities, but may be allowed up to 6 hours in addition to that for didactic activities, for an absolute maximum of 30 straight hours in-house. (Must still comply with rules 1 to 4 if 6-hour extension is used.)

Sample of monthly trauma calendar

Sun	*Mon*	*Tue*	*Wed*	*Thu*	*Fri*	*Sat*
	8:00 a.m. **Morning Report** 11:00 a.m. **Critical Care Forum** 1:00 – 4:00 **Surgery Clinic**	8:00 a.m. **Morning Report**	7;30 a.m. **Surg.Grand Rounds** 8:30 a.m. **Morning Report**	8:00 a.m. **Trauma QI Mtg./ Morning Report**	8:00 a.m. **Morning Report** 1:00 **Trauma Clinic**	
	8:00 a.m. **Morning Report** *No Critical Care Forum on 2nd Monday* 1:00 – 4:00 **Surgery Clinic**	8:00 a.m. **Morning Report**	7:30 a.m. **TRAUMA M & M** 8:45 a.m. **Morning Report**	8:00 a.m. **Trauma QI Mtg./ Morning Report**	8:00 a.m. **Morning Report** 1:00 **Trauma Clinic**	
	8:00 a.m. **Morning Report** 11:15 a.m. **Critical Care Forum** 1:00 – 4:00 **Surgery Clinic**	8:00 a.m. **Morning Report**	7:30 a.m. **Surg.Grand Rounds** 8:45 a.m. **Morning Report**	8:00 a.m. **Trauma QI Mtg./ Morning Report**	8:00 a.m. **Morning Report** 1:00 **Trauma Clinic**	
	8:00 a.m. **Morning Report** 11:15 a.m. **Critical Care Forum** 1:00 – 4:00 **Surgery Clinic**	8:00 a.m. **Morning Report**	7:30 a.m. **Surg.Grand Rounds** 8:45 a.m. **Morning Report**	8:00 a.m. **Trauma QI Mtg./ Morning Report**	8:00 a.m. **Morning Report** 1:00 **Trauma Clinic**	
Locations:	**Morning Report & Trauma QI** Trauma Lounge Ground Floor	**Critical Care Forum** Confr. Rms. D & E	**Surg.Grand Rounds & Trauma M&M** Confr. Rms. D,E & F	**Monday Surgery Clinic** Prosperity Avenue	**Trauma Clinic** OB/GYN clinic, 1st floor behind Park Avenue Cafe	

2006

Date/Time: _____ Age: _____ Gender: ❑ M ❑ F (Pregnant? ❑ Yes ❑ No) PMH/Meds: _____

❑ Scene – Amb / Medic / Helicopter _____ ❑ Interhospital transfer: _____ via Amb / Medic / Helicopter _____

MECHANISM OF INJURY

❑ Motor Vehicle Collision @ _____ mph
- ❑ Driver
- ❑ Rear Pass.
- ❑ Front Pass.
- ❑ Ejection
- ❑ Seatbelt
- ❑ Airbag
- ❑ Carseat
- ❑ Head-on
- ❑ Rollover
- ❑ Lateral Impact
- ❑ Rear-ended
- ❑ High speed
- ❑ Damage to steering wheel/windshield

❑ Motorcycle @ _____ mph (Helmet? ❑ Yes ❑ No)
- ❑ ATV ❑ Motor Bike ❑ Bicycle

❑ Pedestrian struck @ _____ mph

❑ Fall _____

❑ Burns _____ % BSA
- ❑ Inhalation ❑ Electrocution ❑ Chemical

❑ GSW _____

❑ Stab _____

❑ Amputation _____

❑ Industrial/Farm _____

COMMENTS: _____

FIELD ASSESSMENT & TREATMENT

AIRWAY/BREATHING
- ❑ Spontaneous
- ❑ Assisted
  - ❑ ET ❑ OT ❑ BVM
- ❑ Absent

Breath Sounds
Right: ❑ Diminished ❑ Absent
Left: ❑ Diminished ❑ Absent

NECK
Trachea: ❑ Midline ❑ Deviated (Right or Left)

CHEST
Crepitus: ❑ Yes ❑ No

Needle Thoracentesis: ❑ Right ❑ Left

VITAL SIGNS Capillary Refill: ❑ Normal ❑ Delayed _____

Time	SBP	HR	RR	0_2 Sat

NEURO Loss of consciousness? ❑ Yes ❑ No ❑ Unknown
If yes, duration (minutes): _____

HEAD ❑ Laceration ❑ Abrasion ❑ Contusion

FIELD GCS: _____

EYES:
- ❑ Open spontaneously (4)
- ❑ Open to speech (3)
- ❑ Open to pain (2)
- ❑ None (1)

BEST VERBAL RESPONSE:
- ❑ Oriented (5)
- ❑ Confused (4)
- ❑ Inappropriate sounds (3)
- ❑ Incomprehensible sounds (2)
- ❑ None (1)

BEST MOTOR RESPONSE:
- ❑ Obeys Commands (6)
- ❑ Localizes Pain (5)
- ❑ Withdraws to Pain (4)
- ❑ Flexes to Pain (3)
- ❑ Extends to Pain (2)
- ❑ None (1)

IV'S

Site	Fluid

Medication

Drug	Time

ABDOMEN ❑ Flat ❑ Distended ❑ Rigid ❑ Tender ❑ Non-tender

CIRCULATION: Uncontrolled bleeding _____ **EXTREMITIES:** _____

CODE BLUE CRITERIA
- ❑ Airway & Breathing Emergencies
- ❑ Systolic BP <90 with S&S of shock
- ❑ Paralysis
- ❑ Major amputations
- ❑ GCS ≤ 8
- ❑ Penetrating injury head/neck/torso
- ❑ Crush to torso/upper thighs

CODE WHITE CRITERIA
CPR prior to arrival, with no evidence of response and trauma is due to:
- ❑ Blunt trauma
- ❑ GSW to head
- ❑ Traumatic asphyxiation
- ❑ Burn
- ❑ Lightning strike

CODE YELLOW CRITERIA
Physiological Alterations
- ❑ Loss of consciousness >5 minutes
- ❑ Pregnancy ≥ 3 months

Anatomic Alterations
- ❑ Maxillo-Facial Trauma
- ❑ Evidence of pelvic instability
- ❑ Major lacerations involving fascia
- ❑ Significant Subcutaneous Air
- ❑ 2 or more long bone deformities
- ❑ Stab wound to head/neck/torso w/**weapon of questionable effectiveness AND stable vital signs.**

Mechanism of Injury
- ❑ Ejection from Vehicle
- ❑ MVC ≥ 35 mph
- ❑ MCC ≥ 25 mph
- ❑ Pedestrian Struck ≥ 15 mph
- ❑ Documented Fall > 20 ft. or 2 stories
- ❑ Burns (meeting ABA Referral Criteria)

BRIEF INJURY SUMMARY: _____

RN Signature: _____

❑ Trauma Surgeon Consulted: _____

❑ MCP Notified: _____

❑ Charge Nurse Notified: _____

❑ Code Blue ❑ Code Yellow ❑ Code White ❑ None

ETA: _____ **minutes**

PATIENT IDENTIFICATION

INOVA FAIRFAX HOSPITAL

TRAUMA COMMUNICATION RECORD

CAT #96343 / R12-98 • PKGS OF 250

TRAUMA

OBJECTIVES

The overall mission of the trauma service at Inova Fairfax Hospital is, to provide state of the art patient care at an American College of Surgeons Committee on Trauma Level One verified Trauma Center, and to provide education to a broad cross section of practitioners and care providers in our community. In addition we maintain well-defined research and injury prevention missions consistent with our role as a Level One-resource center in Northern Virginia.

JUNIOR RESIDENTS COMPETENCY BASED KNOWLEDGE AND PERFORMANCE OBJECTIVES

1. Develop an understanding of the basic processes involved in injury.
2. Identify major life threatening injuries and the skill set needed to initiate therapy in each case.
3. Acquire the necessary documentation skills to record a patient's history, physical examination, laboratory data and initial plan.
4. Participate in the teaching of medical students.
5. Demonstrate appropriate interpersonal skills in dealing with other residents, attendees, students, nurses, respiratory therapists and other health care professionals.
6. Develop an understanding of the basic approach to trauma resuscitation and the clinical algorithms used to manage trauma patients in the acute phases of care in the hospital setting.
7. Acquire a broad understanding of the importance of injury prevention.
8. Learn to participate in a trauma resuscitation under AATLS protocols

These goals and objectives are subject to review on an ongoing basis. These are resuscitation scenarios in the trauma bay. All residents are oriented to these goals and objectives and to the relevant policies beginning their rotations at Inova Fairfax Hospital and participating in the trauma coverage rotations.

SENIOR RESIDENTS COMPETENCY BASED KNOWLEDGE AND PERFORMANCE OBJECTIVES

1. Acquire necessary knowledge and skills to manage all levels of injured patients in the acute resuscitation phase, in the operating room, in the intensive care unit and on the wards.
2. Develop a broad understanding of mechanisms of injury. The physiology of traumatic disorders and appropriate surgical intervention in each of the major categories of trauma.
3. Coordinate the entire Trauma Team's care activities in the trauma bay, the operating room, and the intensive care unit and on the wards.
4. Develop judgment in the management of trauma patients and the ability to distinguish patients who require various forms of intervention and the acuity

of which they should be managed, especially in cases where multiple victims of injury present at the same time.
5. Demonstrate interpersonal and management skills consistent with a senior surgical resident level of training, to include communication with Attending staff, other residents and students, nurses, respiratory therapists and other health care providers. In particular demonstrate a skill set that would allow the resident to function under stress while maintaining a professional demeanor consistent with the American College of Surgeons guidelines.
6. Provide appropriate documentation of those patients being managed.
7. Participate in rounds, conferences, didactic sessions, and quality improvement activities of both the trauma service and department of surgery.
8. Demonstrate the ability to run a trauma resuscitation and supervise junior personnel under ATLS procedures
9. Demonstrate the ability to perform resuscitative thoracotomy, damage control laparotonmy and advanced abdominal procedures for the control of hemorrhage and performation

UNIT OBJECTIVES: SHOCK

Demonstrate an understanding of the pathophysiology of shock, common surgical etiologies, and its categorizations.
Demonstrate an understanding of the mechanisms and pathophysiology of cardiopulmonary arrest.
Demonstrate the ability to manage the treatment of shock and cardiopulmonary arrest.

COMPETENCY-BASED KNOWLEDGE OBJECTIVES: JUNIOR

1. Define shock, categorize it based upon type, explain the etiology and pathophysiology of each type of shock:
2. Summarize the clinical presentation and homodynamic parameters associated with each type of shock using clinical terms, such as heart rate, respiratory rate, and blood pressure and filling pressures.
3. Propose an algorithm for diagnosing and initiating treatment for each shock type.
    a. Carcinogenic
4. Discuss the pathophysiology, including the mechanism of arrest,
5. Explain the indications for and the pharmacokinetics of each of the inotropic and vasoactive drugs.
6. Outline the signs and symptoms of acute airway obstruction and define the appropriate intervention in adult and pediatric patients.
7. Outline the surgical housestaff role on the “code team.”
8. Explain the physiological impact of mechanically assisted ventilation on the cardiovascular/respiratory system.
9. Analyze methods for initiating and maintaining ventilator/-weaning support.
10. Describe the indications and potential complications for the following surgical interventions:
    a. Bag mask ventilation, endotracheal incubation (oral and nasal)
    b. Cricothyrotomy

c. Thoracostomy tube
d. Central venous catheter
e. Peripheral vein cutdown
f. Arterial line
g. Pulmonary artery catheter
h. Diagnostic peritoneal lavage (DPL)
i. Resuscitative thoracotomy
j. Pericardiocentesis
k. Thoracentesis
l. Ultrasound
m. Wound exploration

11. Review the importance of serial physical examinations, hemodynamic moni toring, and serial laboratory evaluations, including urine output and lactic acidosis, in assessing patient response to specific resuscitation treatment.
12. Outline the clinical and laboratory indications for transfusion of blood products.

COMPETENCY-BASED PERFORMANCE OBJECTIVES: JUNIOR

1. Complete and pass Advanced Cardiac Life Support (ACLS), and Advanced Trauma Life Support (ATLS).
2. Manage the unconscious patient (seizure).
3. Serve on the code team and the trauma team.
4. Recognize and manage airway obstruction.
5. Perform endotracheal and nasotracheal intubation.
6. Use disposable airway equipment, (e.g., bags, gloves) as transmissible infection precautions.
7. Perform cricothyrotomy and tracheotomy.
8. Manage mechanical ventilator equipment.
9. Manage flail chest (pneumothorax, hemothorax, and obstructive shock states).
10. Manage carbon monoxide poisoning.
11. Diagnose cardiac arrest and rhythm disturbances
12. Apply closed chest cardiac massage (CPR).
13. Perform closed chest defibrillation.
14. Perform venous access procedures, including subclavian and jugular and femoral vein catheterizations and saphenous vein cutdown.
15 Estimate volume requirements in acute trauma, burns, and hemorrhage; and institute replacement therapy.
16. Control external blood loss.
17. Perform pulmonary artery catheterization, including determining catheter position by pressure wave recording and electrocardiogram (EKG).
18. Manage cardiogenic and septic shock.

UNIT OBJECTIVES: SURGICAL CRITCAL CARE

Demonstrate knowledge of the principles associated with the diagnosis and management of critically ill patients, including

Knowledge of simple and complex multiple organ system normality and abnormalities. Demonstrate the ability to appropriately diagnose and treat patients with interrelated system disorders in the intensive Care unit.

COMPETENCY-BASED KNOWLEDGE OBJECTIVES:

Junior Level:

Complete the coursework and testing to obtain Basic and Advanced Cardiac Life Support (BCLS and ACLS) and Fundamental Critical Care Support (FCCS) and Advanced Trauma Life Support (ATLS) certification.

Section One: Administration

1. Define and describe the role of the surgeon in the critical care setting to include these aspects:
    a. Unit administration/management (surgeon as unit director)
        (1) Triage of patients
        (2) Economic concerns
        (3) Data collection and computer usage
        (4) Infection control and total quality management (TQM) issues
        (5) Ethical concerns (consent, durable power of attorney, and living wills)
        (6) Local laws for referral to Medical Examiner
    b. Management/consultation for specific surgical conditions
    c. Coordination of multidisciplinary consultants relating and interpreting information between non-surgical consultants
2. Identify and outline criteria for admitting patients to the intensive care unit (ICU) to include:
    a. Medical indications (related to specific diseases, e.g., pulmonary, cardiac, renal)
    b. Surgical indications directly related to specific surgical illness
3. Identify and outline criteria for discharging patients from the ICU, to include:
    a. Medical indications
    b. Surgical indications
    c. Patients unacceptable for ICU (e.g., futile care, do not resuscitate [DNR] orders)
4. Identify and explain the consideration surgeons must make when working with consultants in managing critical care situations.
5. Identify potential Organ, Tissue Donor candidates, as well as the hospital specific procedure for contacting families for potential donation.

Section Two: General Pathophysiology—Body as a Whole

1. Describe the normal physiologic response to a variety of insults such as sepsis, trauma, or surgery from their pre-stress to post-stress states:
2. Describe the concept of the Systemic Inflammatory Response Syndrome (SIRS).
3. Describe prophylactic measures routinely used in critical care
4. Discuss the pharmacotherapeutics of drugs used for support and treatment

of the critically ill patient with emphasis on 1) mode of action, 2) physiologic effects, 3) spectrum of effects, 4) duration of action, 5) appropriate doses, 6) means of metabolism or excretion, 7) complications, and 8) cost:
    a. Vasopressors
    b. Vasodilators
    c. Inotropic agents
    d. Bronchodilators
    e. Diuretics
    f. Antibiotics/antifungal agents
        (1) Distinguish between empiric, therapeutic, and prophylactic
        (2) Demonstrate knowledge of classes of anti-infective
    g. Antidysrhythmics
    h. Antihypertensives
5. Outline the indications and methods for providing nutritional support
6. Outline the principles of postoperative fever with respect to causes, empiric diagnostic modalities, and specific therapy. How useful are these principles when considering the elderly patient?
7. Describe, apply, and revise appropriate treatment interventions based upon analysis of changes in the patient's clinical and laboratory parameters:
    a. Adjustment of intravenous fluids with respect to expected stress response, including metabolic, hormonal, cardiovascular, and renal responses to replacement of fluid losses (Describe association between high levels of stress hormones and alterations of glucose metabolism remembering: do not volume resuscitate patients with excessive amounts of glucose.)
    b. Efficacy of prophylactic measures for PE, stress ulceration and infection
    c. Adequacy of nutritional support in a patient with multiple sites of protein losses (e.g., fistulas, drain sites, or metabolic stressors (infection, acute lung injury {ALI}, hyperthermia, respiratory failure)
    d. Analysis and treatment of postoperative fever and methods of treatment
    e. Events leading to and responsible for initiation of ventilatory support
    f. Differentiate low cardiac output, hypotensive/hypertensive states in terms of preload, pump, or after load
    g. Analysis and treatment of seizures or acute change in mental status, including the role of:
        (1) ABC's (airway, breathing, circulation); draw electrolytes/ blood-urea-nitrogen (BUN)/ creatinine/glucose/calcium, magnesium
        (2) Glucose/thiamin intravenously
        (3) Evaluate medication record for new drugs or interactions (Ativan, Versed, Phenobarbital, and Dilantin (not applicable in the acute event)
    h. Analysis and treatment of acute respiratory failure from changes in the airway, pump, or lung
8. Review the management and diagram a plan for the care of the critically ill surgical patient with multiple medical problems

Section Three: Airway-Respiration

1. Describe the commonly used indications for initiation of ventilation support
2. Review respiratory physiology, and describe the specific pathology involved in ventilation and perfusion deficits.
3. Analyze and compare the principles of ventilator mechanics, including modes of ventilation, triggering mechanisms, and possible uses.
4. Describe the pathophysiology of acute lung injury (ALI, with spectrum from mild to severe ALI, also known as ARDS) and the management of the long-term ventilator-dependent patient
5. Review management of complex respiratory problems: in mechanically ventilated patient
6. Analyze the pros and cons of the use of drugs to improve respiratory function:

Section Four: Circulation

1. Describe and compare the following cardiac function parameters:
    a. Preload
    b. After load
    c. Myocardial contractility
2. Define the information obtained from the use of the following invasive/non-invasive monitoring devices. Specify: 1) which information is directly/indirectly measured or calculated, 2) the accuracy and 3) cost of obtaining the information, and 4) review the hemodynamic principles associated with the use of each device:
    a. Arterial catheters
    b. Central venous catheters
    c. Swan-Ganz catheters
    d. Intracranial pressure monitors
    e. End tidal carbon dioxide monitors
    f. Pulse oximetry
    g. Peripheral nerve stimulators (for testing adequacy of neuromuscular blockade)
    h. Foley catheters
    i. Intestinal pH monitors
    j. Bioelectric impedance
3. Outline the protocols for definition of patterns and management of hemodynamically unstable patients, and analyze the selection of appropriate therapy.
4. Summarize the effects of appropriate volume and drug therapies to manipulate the cardiovascular
5. Discuss the significant patient characteristics in a geriatric population associated with increased risk of thromboembolic disease

Section Five: Renal

1. Review acid-base and electrolyte abnormalities common in critically ill patients.
2. Identify, define, and classify the major categories of acid-base disturbance

(metabolic acidosis and/or alkalosis, respiratory acidosis and/or alkalosis) in the context of the patient's altered physiology. Cite common clinical scenarios for their appearance:

3. Discuss the identification and correction of complex acid-base problems such as choice of intravenous fluids for electrolyte replacement

Section Six: Neurologic

Describe the initial evaluation, ongoing, acute monitoring and long-term management of possible neurologic or behavioral abnormalities occurring in the ICU setting:

a. Seizures
b. Coma
c. Stroke
d. Multifactorial effects of "postoperative confusion"
e. Delirium
f. Brain death

Section Seven: Gastrointestinal/Hepatic

Discuss specific fluid compositions and the effect of the losses of such fluids as gastric, pancreatic, biliary, and succus entericus from intestinal fistulas of various levels. (Fluid should be described in terms of volume, electrolyte composition, and replacement fluid of choice.)

Senior Level:

Section Eight: Administration

1. Describe the criteria for predicting preoperatively the patient's need for critical care, including:
    a. Pre-existing disease states (cardiac, pulmonary, or renal)
    b. Operation-specific requirements for postoperative intensive care management
2. Review and interpret the relationships of physicians, nurses, and administrators in managing patients assigned to the ICU.
3. Discuss the value of an interdisciplinary approach to health care for the critically ill, elderly surgical patient. Include consideration of these groups/disciplines, working together:
    a. Surgery
    b. Nursing staff
    c. Family-friends as caregivers
    d. Physical therapy
    e. Medical consultants
    f. Pharmacy
    g. Religion
    h. Social work
    i. Hospital administration
4. Identify new modes of intensive care therapeutics by completing the following activities:

a. Predict and analyze the need for a new technology.
b. Formulate a plan for the institution of new technologies or therapeutics.
c. Critique and revise applicability of new technologies or therapeutics on a cost: benefit ratio.

5. Summarize the following moral and ethical problems encountered in the ICU:
   a. The need for organ donation and the identification of potential donors
   b. Decisions about whom to resuscitate and to what degree
   c. Care for the mentally incapacitated or incompetent patient
   d. Dealing with a difficult family and futility of care
   e. Identifying and interacting with alternate religious/cultural beliefs

Section Nine: General Pathophysiology—Body as a Whole

1. Discuss the use of sepsis severity scores.
2. Distinguish between the major characteristics of septic shock and hypovolemic shock:
   a. Summarize initial evaluation and presentation
   b. Analyze therapeutic options
   c. Revise therapeutic options based on clinical parameters obtained from monitoring devices
3. Explain the concepts of tissue oxygen supply and demand. Demonstrate the contributions from the following components:
   a. Calculate oxygen delivery
   b. Calculate oxygen consumption
   c. Analyze the effect of cardiac output and varying preload, pump, and afterload to oxygen delivery
   d. Analyze the contributions of hemoglobin and percent of saturation on oxygen delivery
   e. Explain the changes in tissue oxygen delivery and uptake related to pH, temperature, 2, 3-diphosphoglyceride (DPG)
4. Discuss the evaluation and treatment of the following bleeding disorders:
   a. The role of blood vessels, platelets, fibrin cascade, and degeneration in normal hemostasis
   b. Disseminated intravascular coagulopathy (DIC), defining common causes and therapy
   c. Thrombocytopenia as a failure of production, accelerated destruction, or dilution
   d. Hemophilia A
   e. Von Willebrand's disease
   f. Idiopathic thrombocytopenia purpura (ITP) and thrombotic thrombcytopenia purpura (TTP) as causes of thrombocytopenia (compare and contrast)
   g. Heparin or Coumadin therapy misapplication
   h. Advanced liver disease
   i. The role of Protein C, S, and lupus circulating anticoagulant and their roles in bleeding disorders

5. Discuss management of the overall hospital course of the patient with altered physiologic states:
    a. Preoperative considerations specific to their disease
    b. Operative considerations specific to their disease
    c. Postoperative considerations specific to their disease
6. Outline the nutritional and metabolic components for a patient with specific disease states.

Section Ten: Renal
Discuss the physiologic principles and define specific management aspects associated with complex acid-base problems:

Section Eleven: Gastrointestinal/Hepatic
Review and summarize the management of hepatic and renal failure, including:
    a. Utility/disutility of disease-specific nutritional formulations
    b. Adjustment or elimination of toxic substances (antibiotics, contrast material, narcotics)
    c. Current means for support of renal failure, high dose diuretics, continuous veno-venous hemofiltration (CVVH), continuous veno-venous hemodialysis (CVVHD), dialysis, (peritoneal and hemodialysis)

Section Twelve: Endocrine
Describe and specify therapy for the following endocrine-related problems associated with critical care:
    a. Hypothyroidism/hyperthyroidism
    b. Hyperparathyroidism/hypoparathyroidism (changes in calcium and magnesium values)
    c. Adrenal cortical excess (Cushing's disease and syndrome)
    d. Adrenal cortical deficiency states (Addison's disease)

COMPETENCY-BASED PERFORMANCE OBJECTIVES:
Junior Level:
1. Provide initial evaluation and management of the critically ill postoperative patient.
2. Institute the following therapeutic interventions:
    a. Manage fluid orders
    b. Determine ventilator settings
    c. Order pharmacologic support drugs
    d. Determine the need for and duration of antibiotic therapy
3. Obtain ACLS, FCCS, and ATLS certification
4. Perform the following procedures:
    a. Orotracheal and nasotracheal intubation, nasogastric and bladder intubations
    b. Arterial catheter insertion
    c. Central venous and pulmonary artery catheter insertion
    d. Placement of tube thoracotomy
    e. Cricothyrotomy

f. Pericardiocentesis

5. Serve on code and trauma team.
6. Manage critically ill patients in the intensive care unit:
    a. Determine need for ventilation and select situation appropriate airway and initial ventilator settings
    b. Compute initial and ongoing fluid requirements
    c. Analyze need for operative intervention
    d. Initiate rehabilitation process after stabilization of injuries, including:
        (1) Attention to possible altered body habitus
        (2) Requirements for special devices (physical, occupational, or speech therapy)
        (3) Maintain nutritional status
        (4) Provide support, interaction, and information for the family
    e. Establish intravenous access and maintain with appropriate sterile techniques for evaluation of fever
    f. Determine need for ongoing ICU management
    g. Identify appropriate antibiotic therapy distinguishing between prophylactic, empiric, and therapeutic uses
    h. Monitor hemodynamic data

Senior Level:

1. Direct all surgical management of patients in the ICU resp,
2. Manage invasive monitoring catheters, interpret the data obtained, and manipulate the hemodynamic variables toward calculated goals.
3. Manage the following situations:
    a. Multiple organ system failure; providing support for failing, failed, or normal organs
    b. Life threatening surgical infections (e.g., ascending cholangitis, ascending myonecrosis or gangrene)
    c. Hypovolemic shock
    d. Renal failure
    e. Nutritional failure
    f. Liver failure
4. Place emergency transvenous/transthoracic access for cardiac pacing.
5. Perform emergency thoracotomy.
6. Manage the nutritional and metabolic components of the patient's illness.
7. Serve on code and trauma teams as a team leader.
8. Construct a caregiver assessment to include caregiver preparedness, needs, and signs of strain. consider caregiver emotional support and actual physical care of the patient.
9. Analyze the special need for caregiver support systems when the patient is elderly

Objectives for M-IV Students Rotating on Trauma Surgery

1. Perform the primary and secondary survey of trauma patient assessment, prioritize injuries, and initiate the patient's basic work-up.

2. Learn the pathophysiology of shock, know the classes of shock, recognize shock in trauma patients, and initiate resuscitation using standard principles.

3. Evaluate patients with blunt and penetrating trauma to the neck, chest, and abdomen, institute a standardized algorithm for work-up, and recognize indications for surgery in these patients.

4. Learn and discuss the diagnosis, initial stabilization, and treatment of traumatic brain injury, and spine, thoracic, and bowel injuries.

5. Apply principles of management of common solid organ injuries, including indications for surgery, nonoperative management, and angioembolization.

-Recommended reading: ACS Surgery, chapter on initial work-up and resuscitation in trauma

Objectives for M-IV Students Rotating on Surgical Critical Care

1. Initiate basic ventilator settings, and use the different basic modes of mechanical ventilation.

2. Understand the pathophysiology of shock and initiate resuscitation, with appropriate use of fluids, vasopressors, and Swan-Ganz catheters.

3. Describe ICU management of traumatic brain injury, including indications for ICP monitoring and treatment of elevated ICP

4. Describe the spectrum of inflammatory responses from SIRS to sepsis, and apply principles of intensive care in their management.

5. Learn the pathophysiology and diagnostic aspects of Acute Respiratory Distress Syndrome, and apply modern techniques of mechanical ventilatory support in its management.

-Recommended reading: ACS Surgery, section VII, relevant critical care chapters
Mastery of Surgery, Ventilator chapter by Samir Fakhry

Objectives for M-III Students Rotating on Trauma Surgery – VCU, Inova Campus

1. Acquire the skills to conduct and record at least 2 complete history and physical examinations per week on trauma patients presenting to the trauma bay. These records will be reviewed and evaluated on a weekly basis by senior residents, nurse practitioner, or attending staff.

2. Learn the methods of primary and secondary survey for trauma patient assessment.

3. Understand how to diagnose and initiate management of common traumatic injuries to the head, spine, chest, abdomen, and pelvis.

4. Participate in management of trauma patients in the trauma bay, operating room, and surgical ward.

5. Observe and participate in procedures such as placement of intravenous catheters, urinary catheters, nasogastric tubes, central venous catheters, and chest tubes; basic laceration assessment and suturing; injection of local anesthetic.

6. Learn the physiology and clinical management of hemorrhagic shock and fluid resuscitation.

General Surgery
Resident Evaluation
Inova Fairfax Hospital

III. Practice-Based Learning: Evidence-Based Medicine, Outcomes

□ Not Observed

Demonstrates fully integrated use of evidence-based techniques in the evaluation and treatment of patients; knowledgeable about personal outcomes and seeks continual improvement	Familiar with evidence-based medicine with demonstration of ability to apply this technique in daily practice; applies outcome data to personal practice.	Will use evidence-based approach when directed; shows potential for further growth as professional development continues; aware of personal outcomes	Inconsistent in applying evidence-based techniques; requires more direction than expected at this level of training; not generally aware of personal outcomes	Does not understand or use evidence-based approach to practice; does not accept responsibility for poor personal outcomes
Outstanding	Above average	Average	Needs Improvement	Unacceptable

IV.*a*. Communication and Interpersonal Skills: Verbal **□ Not Observed**

Superior communication skills; able to counsel and educate patients and families about disease and implications; Superior, vital relationships with other health care professionals; team player	Good communication skills; able do discuss basic disease and implications with patients and families; communicates and relates effectively to other health care professionals	Average communication skills; able to discuss disease and care plan with patients and families. Relates to patients, families, and other health care professionals appropriately.	Occasionally has difficulty relating to patients and/or staff, including nursing and ancillary staff. Doesn't get along well with other team members. Communication skills need work.	Unskilled in managing patients' concerns; little understanding of teamwork; source of frequent complaints
Outstanding	Above average	Average	Needs Improvement	Unacceptable

IV.*b*. Communication and Interpersonal Skills: Written **□ Not Observed**

Impeccable documentation of patient care activities; timely, pertinent notes, written above level expected for resident.	Above average timeliness, documentation of patient care activities for level of training.	Average timeliness, documentation of patient care activities.	Occasionally forgets to document care. Notes are late, incomplete, or merely copied from previous day.	Poor documentation of patient care activities. Notes are inaccurate, unreliable.
Outstanding	Above average	Average	Needs Improvement	Unacceptable

V. Professionalism: Ethics, Sensitivity, Continuity of Care **□ Not Observed**

Maintains highest standards of ethical behavior and continuity of care; Excellent grasp of ethical issues in health care; sensitive to age, gender, and culture in patients and other health care professionals	Maintains excellent ethical standards and continuity of care; demonstrates good understanding of ethical issues in health care; sensitive to age, gender, and culture in patients and other health care professionals	Maintains good ethical standards and continuity of care. Aware of ethical issues in medicine. Sensitive to age, gender, and culture in patients and other health care professionals	Occasional lapses in continuity of care or ethical standards; lacks consideration for others; has to be reminded to be sensitive to age, gender, and culture in patients and other health care professionals	Poor continuity of care; unethical behavior. Unwilling to accept instruction or correction; antagonistic, disrespectful, rude; thoughtless or insensitive; unexplained absences, unreliable
Outstanding	Above average	Average	Needs Improvement	Unacceptable

General Surgery
Resident Evaluation
Inova Fairfax Hospital

VI. System-Based Practice: Effectiveness, Integration **Not Observed**

Practices superior quality, cost-effective care. Demonstrates exceptional knowledge of risk-benefit analysis; demonstrates excellent understanding of the role of different specialists and other health care professionals in overall patient management	Practices excellent quality, cost-effective care. Demonstrates good knowledge of risk-benefit analysis and understanding of the role of different specialists and other health care professionals in overall patient management.	Practices quality, cost- effective care. Demonstrates knowledge of risk-benefit analysis; and understanding of the role of different specialists and other health care professionals in overall patient management	Occasional lapses in quality or cost-effectiveness of care. Demonstrates little knowledge of risk-benefit analysis or understanding of the role of different specialists and other health care professionals in overall patient management; occasional poor use of system resources	Practices inferior quality, cost-ineffective care. Demonstrates inadequate knowledge of risk-benefit analysis or understanding of the role of different specialists and other health care professionals in overall patient management Poor use of system resources.
Outstanding	Above average	Average	Needs Improvement	Unacceptable

Overall evaluation (please circle or place X in box):

EXCEEDS EXPECTATIONS; DEMONSTRATES REQUIRED COMPETENCIES	MEETS EXPECTATIONS; DEMONSTRATES REQUIRED COMPETENCIES	FAILS TO MEET EXPECTATIONS OR DEMONSTRATE REQUIRED COMPETENCIES

Attending comments:

Resident comments:

Please fax back to:
Diann Carreker (Dee)
Department of Surgery
Fax: 703 776-2338
W- 703 776-2337

(Comments may be continued on back of form as necessary)

	Printed Name/Rank	Signature	Date
Attending			
Resident			
Program Director			

Competencies required of every resident:

I. Patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health.

II. Medical knowledge about established and evolving biomedical, clinical, and cognate (eg, epidemiological and social-behavioral) sciences and the application of this knowledge to patient care.

III. Practice-based learning and improvement that involves investigation and evaluation of their own patient care, appraisal and assimilation of scientific evidence, and improvements in patient care.

IV. Interpersonal and communication skills that result in effective information exchange and collaboration with patients, their families, and other health professionals.

V. Professionalism, as manifested through a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population.

VI. Systems-based practice, as manifested by actions that demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value.

COMMENTS: (continued as necessary)

General Surgery
Resident Evaluation
Inova Fairfax Hospital

Name:

Rotation/Institution: Team 1 Trauma/SICU

Rotation dates:

Place X in box or circle appropriate trait

Dr._____

I.*a*. Patient Care: Patient evaluation **☐ Not Observed**

Targeted and appropriate histories including pertinent positives and negatives; advanced physical examination skills	Organized approach to history-taking; very reliable physical examination skills	Satisfactory history-taking with competent physical examination skills	Occasionally disorganized approach to history-taking; variable results with physical examination	History and physical examination skills inadequate to permit independent practice
Outstanding	Above average	Average	Needs Improvement	Unacceptable

I.*b*. Patient Care: Technical/Procedural Skills **☐ Not Observed**

Technically superior for level of training; safe. Always prepared for procedures; anticipates and tries to prevent complications	Better than average knowledge of procedures and complications, technically quite good; safe.	Demonstrates expected level of proficiency for level of training. Able to perform procedures with average guidance for level of training.	Requires considerable guidance with procedures but can perform them under significant supervision; fair technical skills.	Unsafe while performing procedures; high complication rate; does not follow up or exercise proper diligence. Clearly functioning below level of training.
Outstanding	Above average	Average	Needs Improvement	Unacceptable

I.*c*. Patient Care: Decision Making and Clinical Judgment **☐ Not Observed**

Consistently able to obtain and interpret data to solve problems of increasing complexity; able to develop and execute efficient, effective care plans; exercises superior clinical judgment	Usually able to solve patient problems with minimal assistance from staff; able to develop and execute reasoned care plans; demonstrates sound judgment for level of training	Usually able to report patient data and develop elementary formulation of problem and care plan; reasonable judgment for level of training	Occasionally fails to synthesize data correctly; requires significant assistance in identifying problem and developing care plans. Generally safe but needs work. Marginal judgment.	Fails to identify problems accurately; fails to develop treatment plans. Poor judgment. Unsafe.
Outstanding	Above average	Average	Needs Improvement	Unacceptable

II. Medical Knowledge: Fund of Knowledge **☐ Not Observed**

Extensive knowledge of standard texts and relevant literature incorporates literature searches into practice; initiates discussions and always seeks to educate others.	Broad base of knowledge from standard texts but not from current literature; reads consistently and in an organized manner; performs literature searches. Often teaches subordinates.	Acceptable knowledge base; Reads for cases and will occasionally look up articles, but sometimes misses or misinterprets important findings. Occasionally teaches subordinates.	Fragmented knowledge base; needs to actively increase reading to catch up with peers. Little teaching of subordinates.	Inadequate knowledge base; passive attitude toward reading and looking up facts; often inaccurate; misses important findings.
Outstanding	Above average	Average	Needs Improvement	Unacceptable

VCU M-3 CLERKSHIP EVALUATION

PICTURE

Name:_____ Date:_____ Class of:____

Evaluator:_____ Location:_____ Group #:____ Rotation #:__

INSTRUCTIONS:
Put an "X" in the box that most nearly approximates the student's performance. This evaluation form is to be used to assess student performance and wi be the basis for the resident and attending physician portion of the final grade. Evaluate the student at the M-3 level, taking into account their degree of experience from previous M-3 clerkships.

I. History and Physical/Mental Status Exam Skills

❑ ❑ Exceptionally reliable, complete, and accurate; did not miss any essential findings.	❑ ❑ Consistently accurate, complete and reliable. Rarely missed an essential finding.	❑ ❑ Generally accurate and reliable, missed no essential findings.	❑ ❑ Was often unreliable or inaccurate, missed essential findings.	❑ Unable to evaluate.

II. Ability to communicate information

A. Oral Presentations

❑ ❑ Exceptionally organized, thorough and concise; almost always identified and presented essential findings.	❑ ❑ Consistently organized, thorough, was concise and presented essential findings.	❑ ❑ Generally well organized and thorough; tried to be concise and present essential findings but was not always successful.	❑ ❑ Was often disorganized or incomplete; had difficulty being concise or presenting essential findings.	❑ Unable to evaluate.

B. Written Patient Evaluations (history, physical, progress notes, etc.)

❑ ❑ Exceptionally clear, organized, and thorough; never omitted relevant findings.	❑ ❑ Consistently applied basic science to medical patho-physiology; could usually use knowledge to solve problems; showed evidence of outside reading on assigned patients.	❑ ❑ Had acceptable knowledge of basic science and major concepts of medical pathophysiology; has done required textbook reading.	❑ ❑ Had major gaps in essential medical knowledge; showed little evidence of textbook or outside reading.	❑ Unable to evaluate.

III. Fund of Medical Knowledge

❑ ❑ Exceptional knowledge basic science and medical pathophysiology; able to use knowledge to solve problems; used medical literature extensively.	❑ ❑ Consistently applied basic science to medical patho-physiology; could usually use knowledge to solve problems; showed evidence of outside reading on assigned patients.	❑ ❑ Had acceptable knowledge of basic science and major concepts of medical pathophysiology; has done required textbook reading.	❑ ❑ Had major gaps in essential medical knowledge; showed little evidence of textbook or outside reading.	❑ Unable to evaluate.

IV. Differential Diagnosis

❑ ❑ Formed an extensive and complete differential diagnosis independently.	❑ ❑ Formed a complete differential diagnosis that included major diagnostic possibilities; occasionally required help.	❑ ❑ Knew several of the diagnostic possibilities, often required help to generate a complete list.	❑ ❑ Did not know or did not understand the diagnostic possibilities for may patients.	❑ Unable to evaluate.

V. Patient Management and Clinical Judgment

❑ ❑ Exceptional ability to independently formulate a plan for management and enter it into the chart; was perceptive in assessment of changes in patient status.	❑ ❑ Showed ability to formulate management plan with some help; chart work was solid; was regularly aware of patient status.	❑ ❑ Understood management plan and could formulate major aspects with help; chart work acceptable; was sometimes unaware of patient-related data and patient status.	❑ ❑ Did not understand or could not formulate a management plan; chart work often unacceptable; was often unaware of patient-related data and patient status.	❑ Unable to evaluate.

VI. PROFESSIONALISM RATING SCALE Please rate the attributes you **personally observed** for this student, in terms of expectations for this level of training.

BEHAVIOR	DEFINITION	Signifi-cantly Above	Above	Met	Below	Signifi-cantly Below	No oppor-tunity to observe
Accountability	Takes responsibility for his/her actions; Behaves in an ethical, responsible, and dependable manner; Completes requirements and assignments; Is punctual for clinic, rounds, etc.						
Attitude	Intellectually curious, seeks and accepts constructive feedback and uses it to improve performance; Makes a conscious effort to exceed ordinary expectations. Demonstrates initiative and enthusiasm in all aspects of clinical care.						
Confidence level	Confidence level is consistent with skill level and the student knows his/her limitations.						
Honor & Integrity	Maintains high personal standards; Is honest and fair in his/her interactions; Represents the School of Medicine well. Maintains patient confidentiality.						
Interpersonal relationships	Relationships are characterized by mutual respect and limit setting when indicated; He/she works well with others, including peers and other health care providers, and functions as a member of the team.						
Humanistic/ Altruistic qualities	Concern for the interest and welfare of patients; Develops therapeutic relationships characterized by empathy and respect. Tries to provide comfort/aid to those who are struggling or in distress.						
Motivation for independent learning	Participates as an active learner; Shows evidence of preparation (reading). Consults current literature, and communicates findings. Shows initiative in all aspects of learning. Contributes to the learning of others.						
Appearance	Maintains a well-groomed, professional appearance.						

OVERALL COMMENTS ARE **REQUIRED** FOR THE STUDENT'S RECORD.

Comment on this student's overall performance, with particular emphasis on those aspects that exceeded or fell short of your expectations. Your comments are helpful in our overall evaluation of the student in identifying strengths and weaknesses and are particularly helpful in counseling sessions. Please provide any examples of problem areas so that appropriate feedback may be provided to the student.

FACULTY/HOUSESTAFF SIGNATURE:_____ DATE:_____

STUDENT SIGNATURE*:_____ DATE:_____

*Optional, depending on clerkship. Student signature does not imply agreement with the evaluation--only that the evaluation has been orally reviewed with the student by the evaluator.

Fourth Year Clerkship Evaluation
Georgetown University Medical Center

Student: **Student Clerkship: M-4 Student General/Trauma Surgery**

Department: Surgery **Location/Hospital: Inova Fairfax Hospital**

Prepared by: **3300 Gallows Road, Falls church, Virginia 22042**

Faculty Signature: **Dates:** Mo./Day/Year Mo./Day/Year

Areas of Evaluation	Out-standing	Above Average	Average	Barely Acceptable	Inadequate	Not Evaluated
1. Clinical performance						
2. Fund of knowledge						
3. Histories & physicals						
4. Interest-industry						
5. Response to instruction						
6. Behavior & interpersonal relationships						
7. Oral exam	N/A					
8. Written exam	N/A					
9. Required paper						

	Satisfactory	Inadequate	Not evaluated
10. Professional demeanor	X		
11. Emotional stability	X		

COMMENTS (Required):

OVERALL GRADE: __ Honors __ High Pass ___Pass ___Fail ___Incomplete

H. David Reines, MD
Program Director and Vice Chairman
Department of Surgery
Inova Fairfax Hospital
Please Sign: _____

Program Director Signature

Please return to Diann "Dee" Carreker
3300 Gallows Road
Falls Church, Virginia 22042
Fax: 703 776-2338
Phone: 703 776-2337

☑ = Routine: If not desired, cross off and initial.

☐ = Orders with open box must be checked if desired

IMPORTANT NOTICE TO PHYSICIANS. ***Generics***: When available, Pharmacy will dispense a generic drug, equivalent in strength and active ingredients, unless the order states "brand medically necessary" ***Therapeutic Interchange (T.I.)*** Physicians will be deemed to have given permission for the dispensing and administration of select therapeutically equivalent medications, unless the order states "dispense as written" or the box is checked & a non-substitutable drug name written below it. See the **Purple** placard in this patient's chart (re:T.I.) approved by the hospital's P&T & MEC.

DO NOT USE: U, IU, µg, QOD, QID, **QD/qd**, AU, AS, AD, MS, MSO4, MgSO4, AZT, Nitro drip

ADMISSION ORDERS TO THE TRAUMA / NEURO ICU

(Keep ALL pages of this order set together; if a full page is not desired, draw a line across the page and sign)

Allergies: Complete upon admission ☐ No Known Drug Allergies ☐ No Known Food Allergies

Allergies: _____ (Reaction): _____

Date	Time	
		1. Admit to: **Trauma/Neuro ICU** Date: _____ Time: _____
		2. Diagnosis: _____ Condition: ☐ Critical ☐ Serious _____ _____ Attending Physician: _____ #: _____ Surgery Team: _____ Resident: _____ Pager: _____ ☐ Consult Surgical Critical Care Services Consulting Physician: _____ Consulting Physician: _____ Consulting Physician: _____ Consulting Physician: _____
		3. Monitor/Interventions ☐ VS per ICU routine or every _____ ☐ Cardiac Profile every _____ ☐ A-line to monitor ☐ PA line to monitor ☐ CVP line to monitor ☐ Neuro checks every _____ x _____ ☐ Peripheral vascular checks every _____ x _____ ☐ Obtain Pateint's Weight: _____ ☐ Obtain PM&R consult in AM ☐ NG/OG tube to low continuous suction ☐ Foley to gravity drain. Record output per ICU routine ☐ Chest tube(s) to _____ cm H_2O suction. Record output per ICU routine ☐ PAS / Footpumps (on at least one extremity) ☐ _____ ☐ _____
		4. Activity ☐ HOB @ _____ ☐ LOG ROLL ONLY ☐ C-Spine is cleared. No C-collar needed **OR** ☐ C-Spine is **not** cleared. Do not remove collar ☐ _____ ☐ _____
		5. Nutrition ☐ NPO ☐ Obtain Nutrition consultation ☐ Diet: _____
		6. Respiratory ☐ Ventilator settings: Mode _____ Rate _____ FiO_2 _____ V_T _____ PEEP _____ PS _____ Targeted Spontaneous V_t _____ ☐ Other Settings: ☐ Wean Oxygen to maintain SaO_2 > _____ % ☐ Respiratory treatments: ☐ _____

Print Name & ID#

_____

_____

☐ Therapeutic Interchange not permitted for _____ (drug name)

_____

_____

Physician's Signature

_____

_____

_____

Date/Time: _____

☐ Order read back and verified *(for TO)*

PATIENT IDENTIFICATION

INOVA HEALTH SYSTEM
ADMISSION ORDERS TO THE TRAUMA / NEURO ICU
PHYSICIANS ORDERS

Page 1 of 2

CAT # 96052 / R051205
PKGS OF 100

MR 7-00

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❑ = Orders with open box must be checked if desired

IMPORTANT NOTICE TO PHYSICIANS. ***Generics***: When available, Pharmacy will dispense a generic drug, equivalent in strength and active ingredients, unless the order states "brand medically necessary" ***Therapeutic Interchange (T.I.)*** Physicians will be deemed to have given permission for the dispensing and administration of select therapeutically equivalent medications, unless the order states "dispense as written" or the box is checked & a non-substitutable drug name written below it. See the **Purple** placard in this patient's chart (re:T.I.) approved by the hospital's P&T & MEC.

DO NOT USE: U, IU, µg, QOD, QID, **QD/qd**, AU, AS, AD, MS, MSO4, MgSO4, AZT, Nitro drip

ADMISSION ORDERS TO THE TRAUMA / NEURO ICU

(Keep ALL pages of this order set together; if a full page is not desired, draw a line across the page and sign)

Allergies: Complete upon admission ❑ No Known Drug Allergies ❑ No Known Food Allergies

Allergies: _____ (Reaction): _____

Date	Time	
		7. Medications ❑ LR @ _____ mL/hr **or** ❑ _____ @ _____ mL/hr ❑ Sucralfate 1 gm every 6 hours PO/NG. D/C when tolerating enteral feeds. ❑ Acetaminophen (Tylenol) 650 mg PO/NG/PR every 4 hours PRN temp > 38.5°C ❑ _____ ❑ _____ ❑ _____
		8. Laboratory (standing orders must be renewed after 48 hours) ❑ CBC without diff now (if not done in ED) ❑ CBC without diff in AM ❑ Chem 8, Mg now (if not done in ED) ❑ Chem 8, Mg in AM ❑ _____ ❑ _____
		9. **Electrolyte Replacement** ❑ Potassium Replacement For K < 4, > 3.5, give 20 mEq IV over 1 hr For K < 3.5, > 3, give 40 mEq IV over 2 hrs For K < 3, give 60 mEq IV over 3 hrs and notify H.O. ❑ Magnesium Replacement: (1 gm/hr replacement rate) For Mg < 2, > 1.5, give 2 gm IV over 2 hrs For Mg < 1.5, > 1, give 3 gm IV over 3 hrs For Mg < 1, give 4 gm IV over 4 hrs and notify H.O. ❑ Phosphorous Replacement (Infuse 10 Mm/hr) For P 1.7-2.3 mg/dl, give 15 Mm For P 1.1-1.6 mg/dl, give 25 Mm For P < 1 mg/dl, give 35 Mm **Use Kphos for K < 4.5 mEq/L** **Use NaPhos for K >=4.5 mEq/L**
		10. Radiology (standing orders expire in 24 hours) ❑ _____ ❑ _____ ❑ _____
		11. Call Trauma Resident or Attending For: ❑ CVP < _____ , > _____ ❑ PAWP < _____ ❑ O_2 Sats < _____ ❑ Changes in neuro status ❑ HR > _____ or < _____ ❑ Temperature > _____ ❑ Urine Output < _____ ❑ SBP > _____ , < _____
		12. Additional Protocols ❑ SEDATION / ANALGESIA GUIDELINE ❑ NEUROMUSCULAR BLOCKADE GUIDELINE ❑ FEVER W/U GUIDELINE ❑ DVT PROPHYLAXIS GUIDELINE ❑ TRAUMATIC BRAIN INJURY ORDER SET (Fill out order sheet) ❑ SPINAL CORD INJURY ORDER SET (Fill out order sheet) ❑ ARDS PROTOCOL ❑ _____ ❑ _____ ❑ _____

Print Name & ID#

_____

_____

❑ Therapeutic Interchange not permitted for _____ (drug name)

_____

_____

Physician's Signature

_____

_____

_____

Date/Time: _____

❑ Order read back and verified *(for TO)*

PATIENT IDENTIFICATION

INOVA HEALTH SYSTEM
ADMISSION ORDERS TO THE TRAUMA / NEURO ICU
PHYSICIANS ORDERS

Page 2 of 2

CAT # 96052 / R051205
PKGS OF 100

MR 7-00

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IMPORTANT NOTICE TO PHYSICIANS. ***Generics***: When available, Pharmacy will dispense a generic drug, equivalent in strength and active ingredients, unless the order states "brand medically necessary" ***Therapeutic Interchange (T.I.)*** Physicians will be deemed to have given permission for the dispensing and administration of select therapeutically equivalent medications, unless the order states "dispense as written" or the box is checked & a non-substitutable drug name written below it. See the **Purple** placard in this patient's chart (re:T.I.) approved by the hospital's P&T & MEC.

DO NOT USE: U, IU, µg, QOD, QID, QD/qd, AU, AS, AD, MS, MSO4, MgSO4, AZT, Nitro drip

PEDIATRIC TRAUMA WITH OR WITHOUT MILD BRAIN INJURY ADMISSION ORDER SHEET

(Keep ALL pages of this order set together; if a full page is not desired, draw a line across the page and sign)

Allergies: Complete upon admission ☐ No Known Drug Allergies ☐ No Known Food Allergies

Allergies: _____ (Reaction): _____

Date	Time	
		☑ Weight _____ kg ☐ Height _____ cm ☐ BSA _____ m^2
		☑ Admit PICU
		☑ Diagnosis _____
		☑ Condition _____
		☑ Trauma Attending _____ page # _____
		Resident _____ page # _____
		☐ Neurosurgeon _____ page # _____
		Resident _____ page # _____
		☐ Other Consultant Surgeons _____
		☑ Vital signs every _____ hours ☐ Neuro checks every _____ hours
		☑ Continuously monitor HR, RR, pulse oximetry
		☑ Foley, if present, to gravity and NG/OG tube, if present, to low continuous suction
		☐ HOB at _____ degrees
		☐ Cervical Spine cleared ☐ Cervical Spine <u>not</u> cleared _____ collar
		☑ Strict intake and output
		☐ NPO ☐ Clears ☐ Clears with advance to general for age
		☑ IV fluids of NS + _____ mEq KCL / L at a total IV fluid rate of _____ cc/hr *(maintenance)*
		DsNS + _____ mEq KCL / L at above total IV rate when glucose < 100
		☑ IV + PO rate = _____ cc/hr. Adjust IV maintenance as necessary
		☑ Bedside glucose every 6 hours until glucose containing solution or feedings begun
		☑ If ventilated, keep pCO_2 32 - 36 Torr. Correlate $ETCO_2$ to $PaCO_2$ on ABG
		☑ Chem 8 every AM for 48 hours with any head trauma patient
		☐ Other labs _____
		☐ Head CT w/out contrast _____ hrs after initial exam
		☐ Other CT and when _____

Print Name & ID#

_____

_____

☐ Therapeutic Interchange not permitted for _____ (drug name)

_____

_____

Physician's Signature

_____

_____

_____

Date/Time: _____

☐ Order read back and verified *(for TO)*

PATIENT IDENTIFICATION

INOVA FAIRFAX HOSPITAL
PEDIATRIC TRAUMA WITH OR WITHOUT MILD BRAIN INJURY ADMISSION
PHYSICIANS ORDERS

Page 1 of 2

CAT # 85529 / R041406
IFH-PED-ORD
PKGS OF 100

MR 7-00

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DO NOT USE: U, IU, µg, QOD, QID, QD/qd, AU, AS, AD, MS, MSO4, MgSO4, AZT, Nitro drip

PEDIATRIC TRAUMA WITH OR WITHOUT MILD BRAIN INJURY ADMISSION ORDER SHEET

(Keep ALL pages of this order set together; if a full page is not desired, draw a line across the page and sign)

Allergies: Complete upon admission ❑ No Known Drug Allergies ❑ No Known Food Allergies

Allergies: _____ (Reaction): _____

Date	Time	MEDICATIONS:
		☑ Weight _____ kg ❑ Height _____ cm ❑ BSA _____ m^2
		❑ Phosphenytoin load _____ mg (phosphenytoin equivalents) IV over 20 min *(20 mg/kg)*
		❑ Phosphenytoin maintenance _____ mg (phosphenytoin equivalents) IV every 12 hrs *(5-7 mg/kg/day BID)*
		☑ Acetaminophen _____ mg PO/NG/PR every 4 hours PRN temp >38ºC *(15 mg/kg/dose)*
		❑ Ibuprofen _____ mg PO/NG every 6 hours PRN temp > 38ºC *(10 mg/kg/dose)*
Controlled Substances		❑ Morphine _____ mg IV every 1 hour PRN severe pain *(0.1 mg/kg/dose)*
		❑ Midazolam _____ mg IV every 1 hour PRN agitation *(0.1 mg/kg/dose)*
		❑ Naloxone (PRN reversal dose) _____ mg IV slowly *(0.01 mg/kg/dose)*
		❑ Flumazenil (PRN reversal dose) _____ mcg IV slowly *(5 mcg/kg/dose)*
		NOTIFICATIONS:
		☑ Significant change in GCS or any GCS < 9
		☑ Significant change in heart rate, blood pressure, or respiratory rate from baseline
		☑ $PaCO_2$ < 35 or > 40 if intubated
		☑ Oxygen saturations < 96% on FIO_2 of 60%
		☑ Serum Na < 135 or > 150 mEq/L, K < 3.0 or > 5.0 mEq/L, ionized Ca < 2.0 mEq/L
		☑ Blood glucose > 200 or < 60 mg/dl
		☑ Urine output < 1 mL/kg/hr x 6 hours or hourly output > hourly intake x 6 hours
		☑ Hct decrease by 10%

Print Name & ID#

_____

_____

❑ Therapeutic Interchange not permitted for _____ (drug name)

_____

_____

Physician's Signature

_____

_____

_____

Date/Time: _____

❑ Order read back and verified *(for TO)*

PATIENT IDENTIFICATION

INOVA FAIRFAX HOSPITAL
PEDIATRIC TRAUMA WITH OR WITHOUT MILD BRAIN INJURY ADMISSION
PHYSICIANS ORDERS

CAT # 85529 / R041406
IFH-PED-ORD
PKGS OF 100
MR 7-00

THE CRITICAL CARE BLUEPRINT

WRITE ON ADMISSION AND EVERY MONDAY (unless contraindicated):

D/C all standing labs & xrays
SCCS Ventilator protocol
Fever protocol
Electrolyte protocol
Wean sedation & analgesia drips per protocol for RASS 0 to –2
(unless TBI protocol or ARDS protocol is active)
Bowel regimen:
Colace/Senokot
Dulcolax suppository daily prn
Fleets enema daily prn
Obtain 30-day ICU blanket consent for:
Central Lines, Swan, Chest Tubes, Bronchoscopy, PICC

REVIEW DAILY ON EVERY PATIENT:

LOVENOX? (or other VTE prophylaxis)

ELEVATE HOB 30 DEGREES?

VAP PROTOCOL BEING FOLLOWED?

EXTUBATE?

NEED TRACHEOSTOMY?

TUBE FEEDS AT GOAL?

GASTRITIS PROPHYLAXIS?

GLUCOSE CONTROLLED? (Insulin Protocol needed?)

D/C ANTIBIOTICS (or other meds)?

D/C CENTRAL LINE?

WEEKLY INTERIM SUMMARY DONE?

PT/OT?

PM & R?

TRANSFER?

Date							
	Mon	Tue	Wed	Thu	Fri	Sat	Sun
MD							
RN							
SW							
Pharm							
Nutrition							
PM&R							
RCP							

Hospital Day **Post-Op Day**

Admitting Diagnoses

INTERVAL HISTORY

Drips:

Tmax: **BP:** **HR:** **RR:** **SpO2:**

PAP: **PCWP:** **CVP:** **CO/CI:** **SVR/SVRI:**

ABX:

Vent: Mode R Vt Peep FiO2 **ABG:**

ICP: **CPP:** **I/O:** **BM:**

IVF: **UOP:**

Nutrition: **NGT**

DVT:

Lines: **CT:** **R** **L**

Labs: **Drains:**

MEDS:

Micro:

PT **INR** **PTT**

IMAGING STUDIES

EXAM: **Neuro: GCS**

Head/Neck:

Lungs:

Heart:

Abdomen:

Extremities:

Skin:

A/P:

Resident/NP/PA Signature

Attending Signature

Attending Progress Note

Today s Active Dx s :

Agitation
Alkalosis/Acidosis
Altered Mental Status
Arrhythmia
Anemia, acute blood loss
ARDS/ Resp Failure
Aspiration/ Pneumonitis
Atelectasis
Bacteremia, _____
Bowel Injury_____
Cardiac Failure
C-spine fx _____
Contusion,_____
Coagulopathy
Coma
Concussion/LOC=
DVT= UE or LE
Electrolyte Imbalance
NA___, K_____, Cl____
Fever
Flail Chest
Hemiplegia/Hemiparesis
Hemothorax R L
Hypotension
Hypoxemia
Kidney Injury, Grd_____
Liver Injury, Grd_____
Pancreatitis, Acute
Pelvic Fx
Pleural Effusion R L
Pneumonia, _____
Pneumothorax R L
Pulmonary Contusion
Pulmonary Edema
Pulmonary Embolus
Rib Fracture #_____
SDH / EDH / SAH
Septicemia, _____
Secretions, increased
Shock, Hemorrhagic
Shock_____
Shock w/o trauma
SIRS INF/ORGAN DYS
Skull Fracture_____
Spinal Cord Injury
Spleen Injury, Grd_____
TBI
Tachycardia
Tachypnea
UTI, _____
WBC, increased
Other

☐ I saw and examined the patient. Findings and exam duplicated except as noted below

Interval History:

Examination:

Assessment and care plan:

☐ Critical Care Time: minutes without procedures

Attending (signature)

S. Fakhry #83923 K . Dwyer #82399 C Michetti #10406 H Seoudi #11145

E. Russo #85742 H. D. Reines #10560 A. Rizzo # 12115

SURGICAL CRITICAL CARE/TRAUMA
Page 2 of 2

Date/Time	PHYSICIAN'S PROCEDURE NOTE		
	INDICATION FOR PROCEDURE: *(choose all that apply)*		
	❑ Atelectasis / Volume Loss	❑ Coma	❑ Dysphagia / Inability to Swallow
	❑ Hemorrhagic Shock	❑ Hemothorax	❑ Hypotension
	❑ Hypoxia	❑ Laceration / Stab Wound	❑ Pleural Effusion
	❑ Pneumonia	❑ Pneumothorax	❑ Respiratory Failure / Distress
	❑ Septic Shock	❑ Traumatic Brain Injury	❑ Other :
	PROCEDURES:	**CRITICAL ELEMENTS**:	
	❑ Arterial Catheter	❑ Arterial puncture, placement of catheter	
	❑ Bronchoscopy ❑ BAL	❑ Insertion of scope, viewing, suctioning and removal of scope	
	❑ Chest Tube	❑ Skin incision, pleural entry, tube placement	
	❑ CVC ❑ Introducer ❑ Guide wire exchange ❑ single lumen ❑ double lumen ❑ triple lumen Site:	❑ Venipuncture, catheter insertion ❑ Replacement, catheter insertion through same venous access	
	❑ DPL	❑ Catheter insertion, fluid instillation, retrieval and interpretation	
	❑ PEG	❑ Endoscopic insertion of tube, confirmation of placement	
	❑ Percutaneous Tracheostomy	❑ Incision, insertion dilators, insertion tracheostomy tube	
	❑ Pulmonary Arterial Catheter	❑ Insertion catheter, confirmation of placement	
	❑ Wound Exploration Anatomic site:	❑ Enlarge wound, exploration of site	
	❑ Laceration Repair ❑ simple ❑ intermediate ❑ complex _____(if complex repair, need separate operative report.) Anatomic site(s): _____ Length in cm: _____ Description *(suture type and size)* _____	❑ Wound assessment, preparation and repair	
	Anesthesia: Local _____ IV _____		
	Comment: _____		
	❑ I was present for and directed Dr. _____ (resident/fellow) in the entire procedure.		
	❑ I performed the entire procedure.		

RESIDENT SIGNATURE & ID#

ATTENDING PHYSICIAN'S SIGNATURE

S. FAKHRY #3923	**K. DWYER #2399**	**C. MICHETTI #10406**	**E. RUSSO #5742**
H.D. REINES #10560	**A. RIZZO #12115**	**H. SEOUDI #11145**	**A. TRASK #0153**
K.HENDERSHOT #04864	**R. BENOIT #4546**	**W. GREENE #12498**	

PATIENT IDENTIFICATION

INOVA FAIRFAX HOSPITAL

PHYSICIAN'S PROCEDURE NOTE

CAT #84387 / R110205 • PKGS OF 250

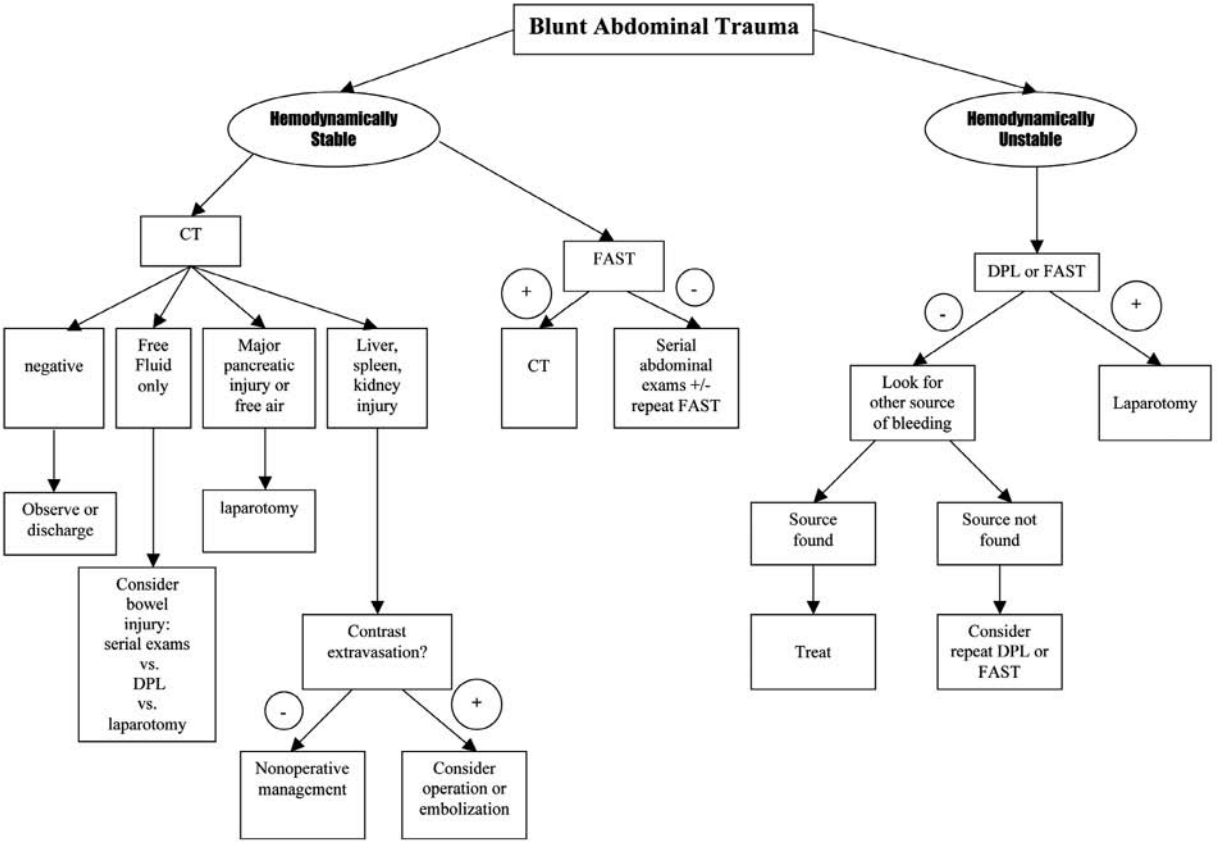
Date/Time	OPERATIVE PROGRESS NOTE
	PRE-OP DIAGNOSIS:
	POST-OP DIAGNOSIS:
	SURGEON:
	ASSISTANT:
	PROCEDURE:
	FINDINGS:
	EBL: REPLACED:
	DRAINS / PACKING:
	SPECIMENS:
	COMPLICATIONS:
	CONDITION:
	MD SIGNATURE: **MD#:**

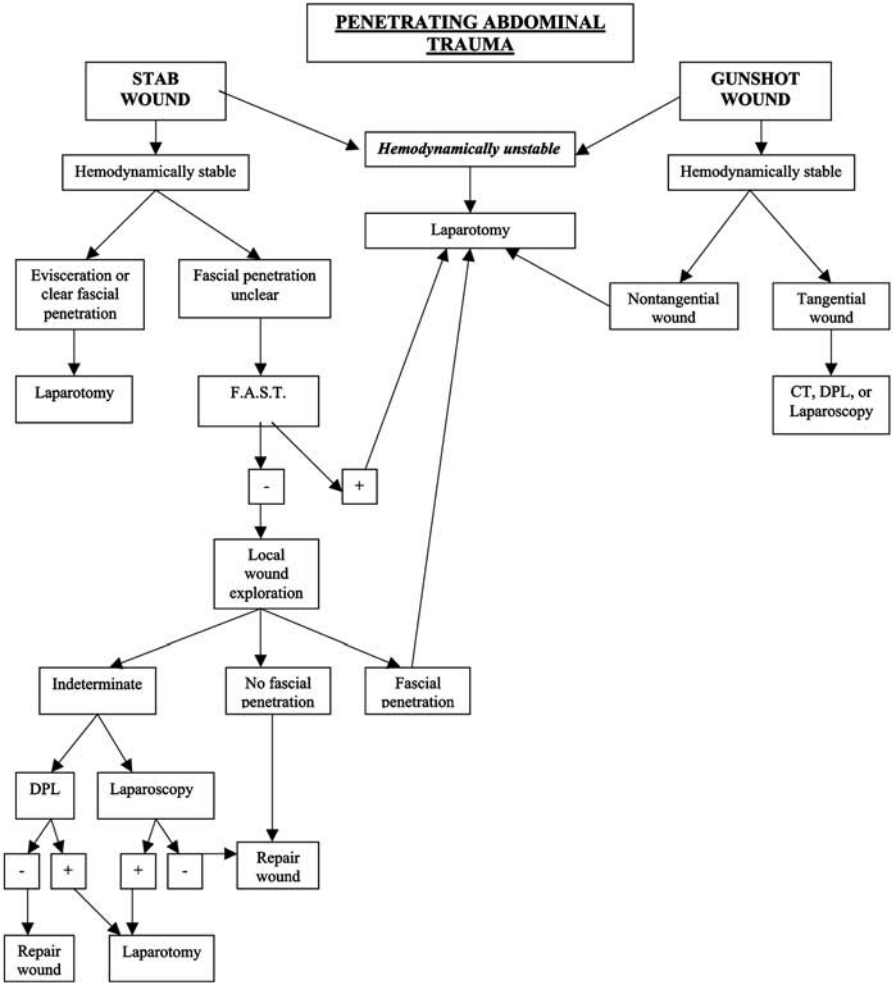
PATIENT IDENTIFICATION

INOVA FAIRFAX HOSPITAL

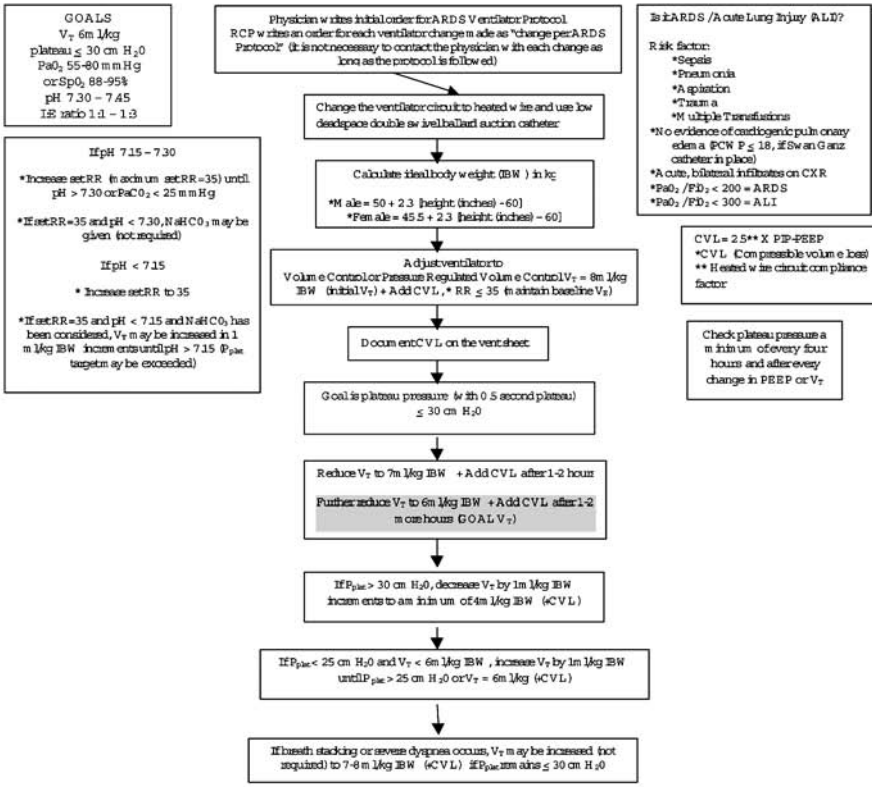
PHYSICIAN'S OPERATIVE PROGRESS NOTES

CAT #83964 / R11-01 • PKGS OF 100


Blunt Abdominal Trauma
Hemodynamically Stable
Hemodynamically Unstable
CT
FAST
DPL or FAST
negative
Free Fluid only
Major pancreatic injury or free air
Liver, spleen, kidney injury
+
-
CT
Serial abdominal exams +/- repeat FAST
-
+
Look for other source of bleeding
Laparotomy
Observe or discharge
laparotomy
Consider bowel injury: serial exams vs. DPL vs. laparotomy
Contrast extravasation?
Source found
Source not found
Treat
Consider repeat DPL or FAST
-
+
Nonoperative management
Consider operation or embolization

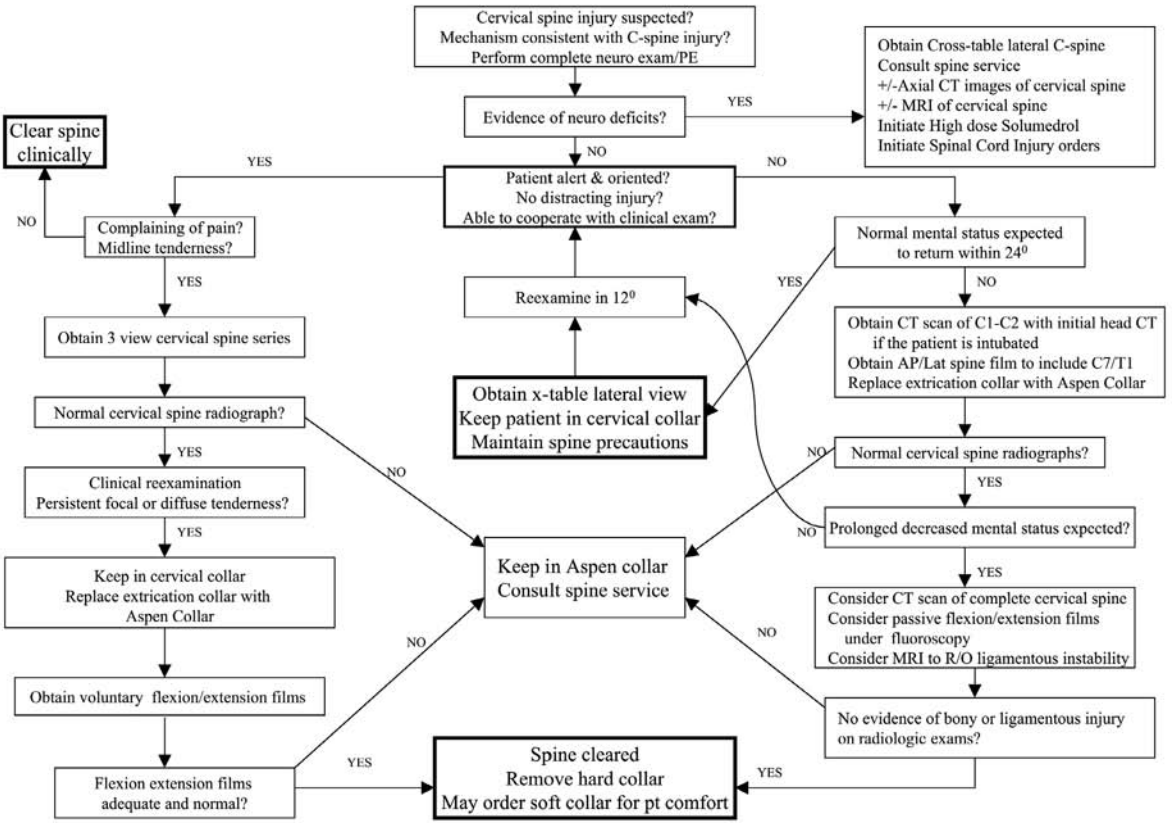

PENETRATING ABDOMINAL TRAUMA
STAB WOUND
GUNSHOT WOUND
Hemodynamically unstable
Hemodynamically stable
Hemodynamically stable
Laparotomy
Evisceration or clear fascial penetration
Fascial penetration unclear
Nontangential wound
Tangential wound
Laparotomy
F.A.S.T.
CT, DPL, or Laparoscopy
-
+
Local wound exploration
Indeterminate
No fascial penetration
Fascial penetration
DPL
Laparoscopy
-
+
+
-
Repair wound
Repair wound
Laparotomy

Inova Fairfax Hospital
Respiratory Care Services
ARDS Ventilator Protocol

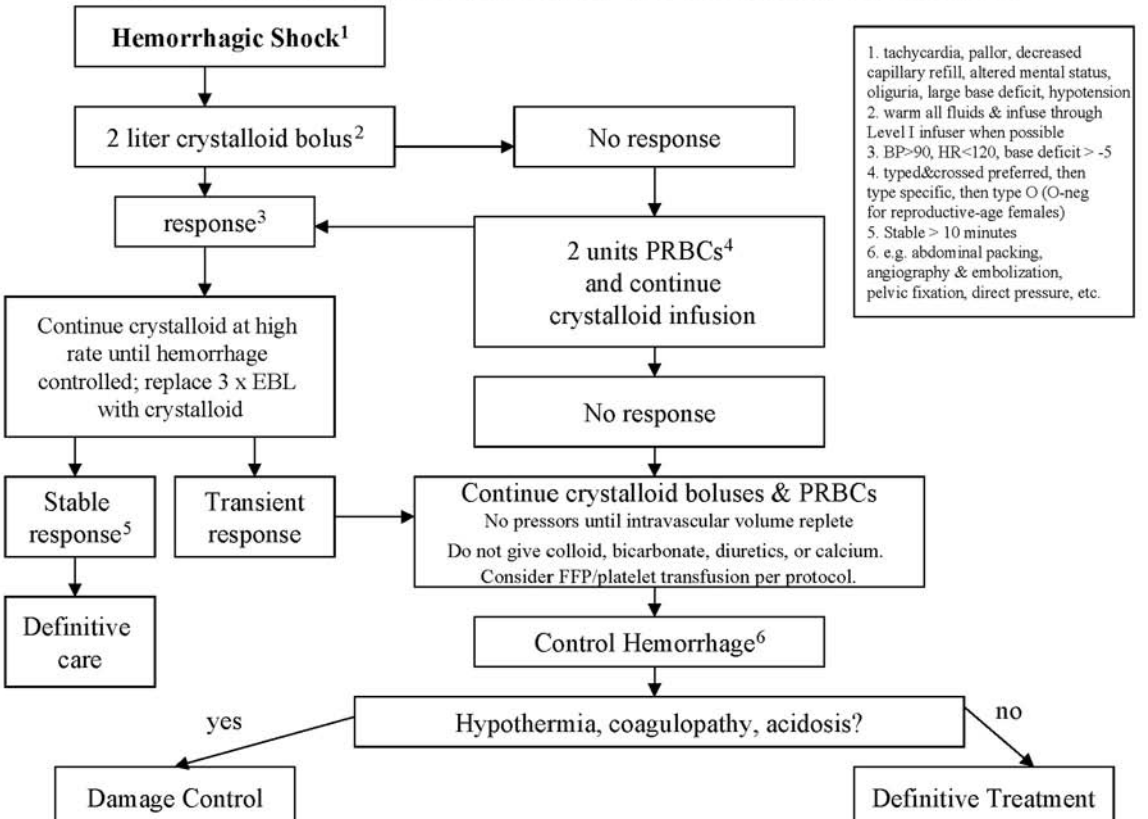


FiO_2 / PEEP combinations														
FiO_2	0.3	0.4	0.4	0.5	0.5	0.6	0.7	0.7	0.7	0.8	0.9	0.9	0.9	1.0
PEEP	5	5	8	8	10	10	10	12	14	14	14	16	18	20-24

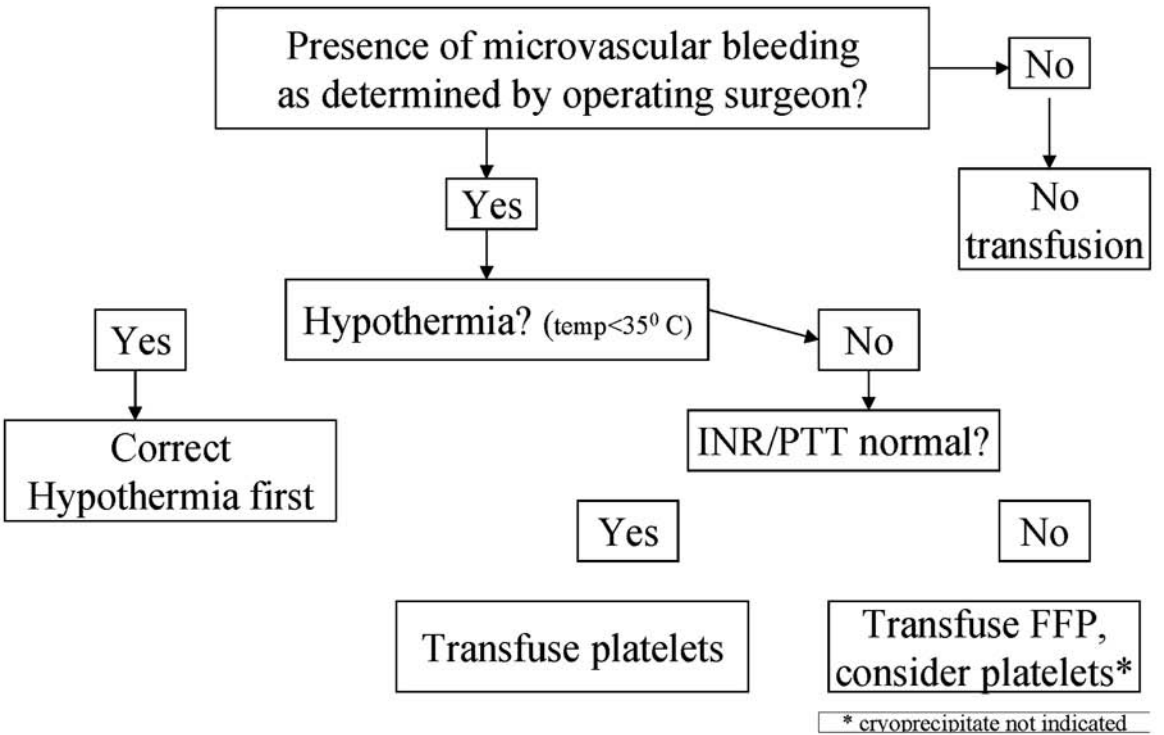
Algorithm for Cervical Spine Clearance



ADULT HEMORRHAGIC SHOCK RESUSCITATION GUIDELINE



GUIDELINES FOR PLATELET AND FFP TRANSFUSION



References

Definition and classification of hemorrhagic shock, proper fluid choice, method of resuscitation, use of bicarbonate and calcium, effects of hypothermia:

- Committee on Trauma of the American College of Surgeons. Advanced trauma life support course for doctors. 6th ed. American College of Surgeons: Chicago, IL: 1997;97-117.
- Lucas CE, Ledgerwood AM, Saxe JM. Resuscitation from hemorrhagic shock. In: Ivatury RR, Cayten CG (eds): The Textbook of Penetrating Trauma. Baltimore, Williams & Wilkins, 1996.
- Davis JW, Shackford SR, Mackersie RC, et al. Base deficit as a guide to volume resuscitation. J Trauma 1988;28:1464-1467

Deleterious effects of colloids:

- Lucas CE, Ledgerwood AM, Higgins RF, et al. Impaired pulmonary function after albumin resuscitation from shock. J Trauma 1980;20:446-451.
- Velanovich V. Crystalloid versus colloid fluid resuscitation: a meta analysis of mortality. Surgery 1989;105:65-71.
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- Cochrane Injuries Group Albumin Reviewers. Human albumin administration in critically ill patients: Systematic review of randomized controlled trials. BMJ 1998;317:235-240.

Damage control

- Rotondo MF, Schwab CW, McGonigal MD, et al. Damage control: an approach for improved survival in exsanguinating penetrating abdominal injury. J Trauma 1993;35:375-382
- Shapiro MB, Jenkins DH, Schwab CW, et al. Damage control: collective review. J Trauma 2000;45:969-978

Use of bicarbonate in lactic acidosis:

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- Arieff AI. Indications for the use of bicarbonate in patients with metabolic acidosis. Br J Anesth 1991;67:165-177.

Use of platelet transfusions in hemorrhagic shock, hypothermia and platelet dysfunction

- Harrigan C, Lucas CE, Ledgerwood, AM, et al. Serial changes in primary hemostasis after massive transfusion. Surgery 1985;98:836.
- Reed RL Ciavarella D, Heimbach DM, et al. Prophylactic platelet transfusion during massive transfusion: A prospective double-blinded clinical study. Ann Surg 1986;203:40.
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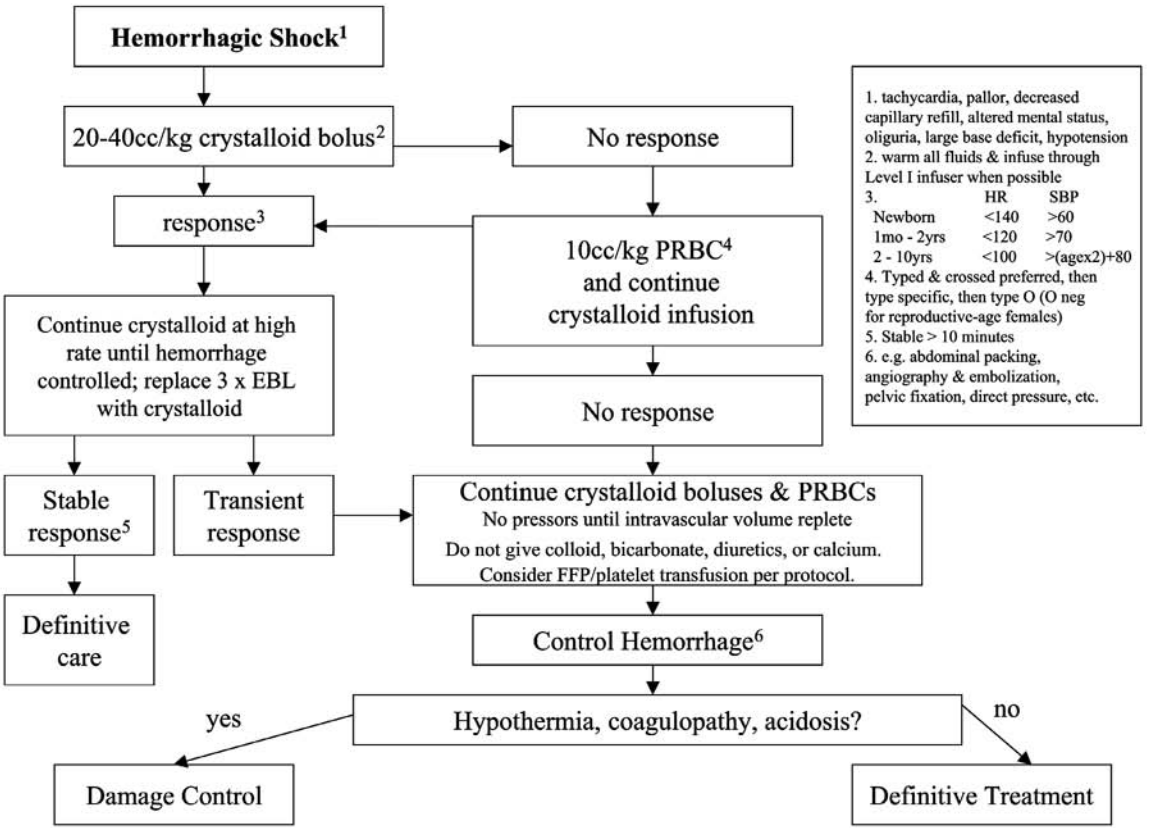
Use of fresh frozen plasma in hemorrhagic shock

- Martin DJ, Lucas CE, Ledgerwood AM, et al. Fresh frozen plasma supplement to massive red blood cell transfusion. Ann Surg 1985;202:505-511.
- Lucas CE, Ledgerwood AM, Saxe JM, et al. Plasma supplementation is beneficial for coagulation during severe hemorrhagic shock. Am J Surg 1996;171:399-404.

PEDIATRIC HEMORRHAGIC SHOCK RESUSCITATION GUIDELINE



IV INSULIN DRIP PROTOCOL IN ADULT CRITICAL CARE

Inclusion Criteria

- **Discontinue all current insulin orders prior to starting this protocol.**
- SB/P ≥ 90

General Guidelines

- Capillary Blood Glucose Determination (CBGD) should be checked every **one hour** until normalized (CBGD 80-120mg/dl) for 2 hrs
- Once normalized CBGD can be check **every 2 hours.**
- When giving IV medications in a dextrose carrying solution, check CBGD **one hour after** the medication is completed.
- Less insulin may be required if titrating vasopressors and/or steroids.
- Maximum insulin dose is arbitrarily set at 50 units/hr.
- Do not add insulin to TPN.
- If tube feeding or TPN is held or discontinued, **STOP** insulin drip and check CBGD in 1 hour, then START insulin drip.
- Discontinue insulin drip if patient switches to nocturnal or bolus tube feeding.
-

USE THIS TABLE ONLY FOR THE INITIAL INSULIN DOSE

Blood Glucose (mg/dl)	IV Insulin Bolus (units)	Initial Insulin Rate (units/hr)
80-120	0	0
121-150	0	1
151-190	0	2
191-230	0	3
231-270	4	4
271-310	6	5
311-350	8	6
>350	10	7

Blood Glucose (mg/dl)	USE THIS TABLE FOR INSULIN DRIP TITRATION
<50	**Stop** insulin drip. Give **25 ml** of D50. • When CBGD is >120, **restart** insulin at **HALF** (50%) of previous rate
50-79	**Stop** insulin drip. • When CBGD is >120, **restart** insulin at **HALF** (50%) of previous rate
80-120	**No change** **Exceptions:** • If CBGD level falls equal to or greater than **10mg/dl, REDUCE** the insulin drip dose by **1 unit/hr** of the previous rate. • If CBGD level falls equal to or greater than 50%, **REDUCE** the insulin drip dose to **HALF (50%)** of the previous rate.
121-170	If lower than last CBGD, continue at same rate. If higher than the last CBGD, increase drip by 1 unit/hr. **Exceptions:** • If CBGD level falls equal to or greater than 50%, **REDUCE** the insulin drip dose to **HALF (50%)** of the previous rate.
>170	If lower than last CBGD continue the same rate. If higher than the last CBGD, increase drip by 2 untis/hr. **Exceptions:** • If CBGD level falls equal to or greater than 50%, **REDUCE** the insulin drip dose to **HALF (50%)** of the previous rate.

Patient Addressograph

_____ _____

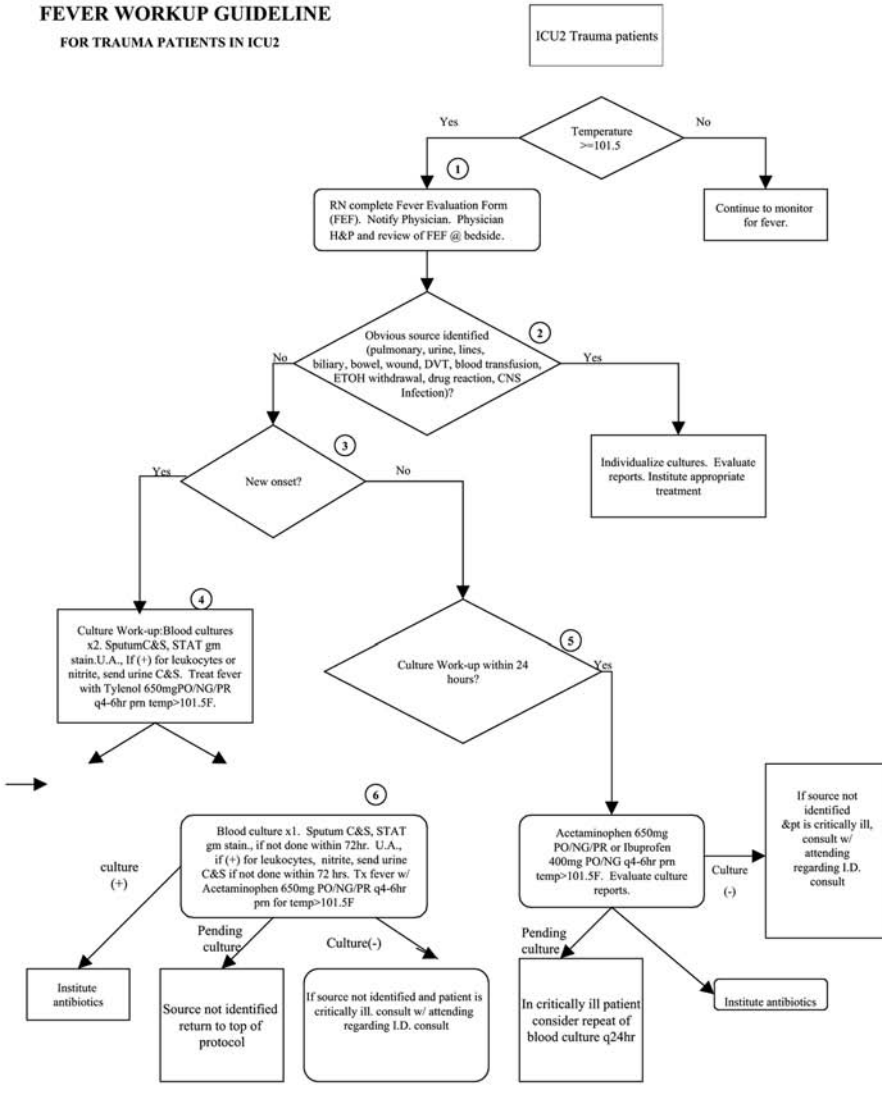
Physician Signature ID #

Date_____ Time_____

Xerox a copy of this order and send to Pharmacy 5/29/03sa

FEVER WORKUP GUIDELINE

FOR TRAUMA PATIENTS IN ICU2



1/28/2001

CHLORDIAZEPOXIDE (LIBRIUM) DETOXIFICATION PROTOCOL

Methodology: Patients at risk for alcohol or benzodiazepine withdrawal are assessed using the CIWA-Ar scale (Clinical Institute Withdrawal Assessment of Alcohol, revised), which measures 10 symptoms. Librium is given on an as-needed basis based upon the CIWA-Ar score.

Admission: On admission patient may receive Librium 100mg po q2 hours for the first 2 doses PRN tachycardia > 105, nausea, agitation, severe anxiety or hypertension > 150/100

DAY 1: Librium 50mg po q2 hours PRN CIWA-Ar scale score of 10 or greater

DAY 2: Librium 50mg po q4 hours PRN CIWA-Ar scale score of 10 or greater

DAY 3: Librium 25mg po q4 hours PRN CIWA-Ar scale score of 10 or greater

DAY 4: Librium 25mg po q6 hours PRN CIWA-Ar scale score of 10 or greater

DAY 5: Librium 25mg po q8 hours PRN CIWA-Ar scale score of 10 or greater

CIWA-Ar scale categories

Agitation
Anxiety
Auditory disturbances
Clouding of Sensorium
Headache
Nausea/vomiting
Paroxysmal Sweats
Tactile Disturbances
Tremor
Visual Disturbances

The Organ Donation Process

Organ donation is a vitally important process in healthcare, due to the potential to directly save lives. The number of people on the transplantation waiting list far exceeds the number of available organs. Many patients and their families choose to donate organs and tissue after death, and the donation process is designed to facilitate their donation in the optimum way. Organ donation can be accomplished in two ways: Donation after Brain Death and Donation After Cardiac Death (DCD).

Following is a selection of certain practices that have been shown to be highly effective in increasing the rates of organ donation. The current national goal is at least a **75% Conversion Rate.** Conversion rate is the number of patients who actually donate out of the number of total eligible donors.

Using an Appropriate requestor: Consent rates for organ donation are highest when the following methods are used:

- the Organ Procurement Organization (OPO) approaches the family about donation, rather than a physician or nurse
- The request for donation is made only after declaration of brain death, or after a plan for withdrawal of care is established with the family (but before care is actually withdrawn)
- Brain death or withdrawal of care discussions are separated in time from organ donation discussions (If a family mentions donation, it should be encouraged but further discussion deferred until the OPO coordinator is present)

Early Referral of potential donor: Referral of potential donors to the OPO as early as possible is critical to start the process and screen for eligible donors. Patients should be referred based on broad clinical triggers in order to capture all eligible donors. At Inova Fairfax Hospital these triggers are: (1) Glasgow Coma Scale of 5 or less with brain injury or nontraumatic hemorrhage (2) brain death testing is planned (3) critically ill patient made DNR or consideration of comfort care measures (4) withdrawal of care planned.

Timely brain death testing: Brain death, when suspected, should be determined as soon as possible to allow families to adjust to the death, and to maintain optimal organ function for successful donation. The more time that passes while brain dead, the less viable certain organs will be for transplantation.

Avoiding organ ischemia: Maintaining patients' optimal physiology until brain death is determined or care is withheld avoids organ and tissue ischemia that may decrease viability for transplantation. Maintain a "full court press" until end-of-life decisions are made.

Use of clinical triggers: Calls to the OPO should be made based on broad criteria (triggers) that will capture those patients who are potential donors. The triggers for Inova Fairfax Hospital are:

- Glasgow Coma Scale of 5 or less with traumatic brain injury or other severe neurologic condition
- Brain death testing being planned
- Patient in a critical care unit being made DNR
- Comfort care is being considered
- Care is to be withheld pursuant to patient's/family's wishes (call PRIOR to withholding support!)

Information & Resources:

The Organ Donation Breakthrough Collaborative is a national initiative sponsored by the Department of Health and Human Services, designed to improve the conversion rate of the nation's largest hospitals to 75% each, and the average number of organs per donor to 3.75. Information is available at **http://www.organdonationnow.org/**

Washington Regional Transplant Consortium (WRTC)
703-641-0100
7619 Little River Turnpike
Suite 900
Annandale, VA 22003-2628

Organ Donation Timeline

Donation Process Overview

Pt meets clinical trigger (call within 1 hr)
- Pt is GCS 5 or less
- Severe traumatic brain injury requiring mechanical ventilation with no continuous sedation
- Brain death testing to be initiated
- Family considering comfort care measures
- Life sustaining therapy to be withdrawn pursuant to family's decision (call **prior** to extubation!)
- Pt being made DNAR
- Family initiates a donation conversation
- Pt is pronounced cardiac dead

Referral to WRTC
- Provide info: name, age, sex, race, admitting Dx, PMH, infection status, NOK info
- Current neuro status, sedatives, paralytics, brain death testing planned, w/d vent planned, hemodynamic status
- If cardiac dead, time of death

WRTC on-site potential donor evaluation
-Review pt's chart, labs, flow sheet, etc.

Huddle
- Meeting w/ key WRTC and hospital personnel (WRTC coordinator, WRTC medical director, bedside nurse, intensivist, social worker, etc.)
- Designed to coordinate patient's care and plan for possible donation prior to approach about donation. Family is **NOT** involved in this conversation.
- Discussion includes clinical course, neuro status, family understanding of prognosis, family dynamics, additional obstacles, and preserving the option of donation (see next page).

Brain death declaration/ Family decides to implement comfort care measures
- Call prior to D/C mechanical ventilation

WRTC speaks w/ family about donation
- Introduce WRTC coordinator as a member of hospital team who specializes in working w/ families making end of life decisions.
- Discussion may include other members of hospital that have developed rapport w/ family.

Donor Management: Brain Dead Patient (see next page for DCD) – Implemented by WRTC staff
- Initiate WRTC pre-written orders
- Discharge patient; readmit pt to WRTC service
- Draw blood for serology, HLA tissue typing, multiple labs, ABG
- Prepare for appropriate bedside procedures: line (A-line, Swan, CVP), Echo, EKG, Bronchoscopy
- Initiate WRTC donor medications
- Monitor I/Os, BP, cardiac output measures, etc.

Organ Allocation
- WRTC coordinator places organs w/ potential recipients

Organ Recovery in OR
- Call OR and give report
- Assist w/ pt transport to OR

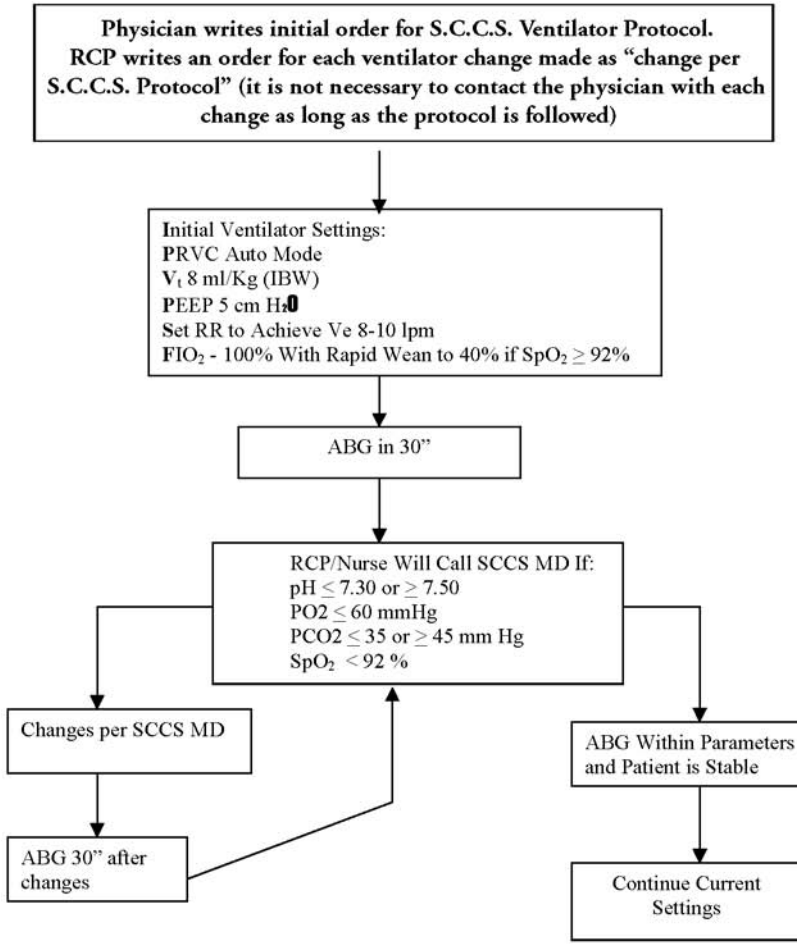
Follow-up
- Provide recipient follow-up info to donor family and hospital staff

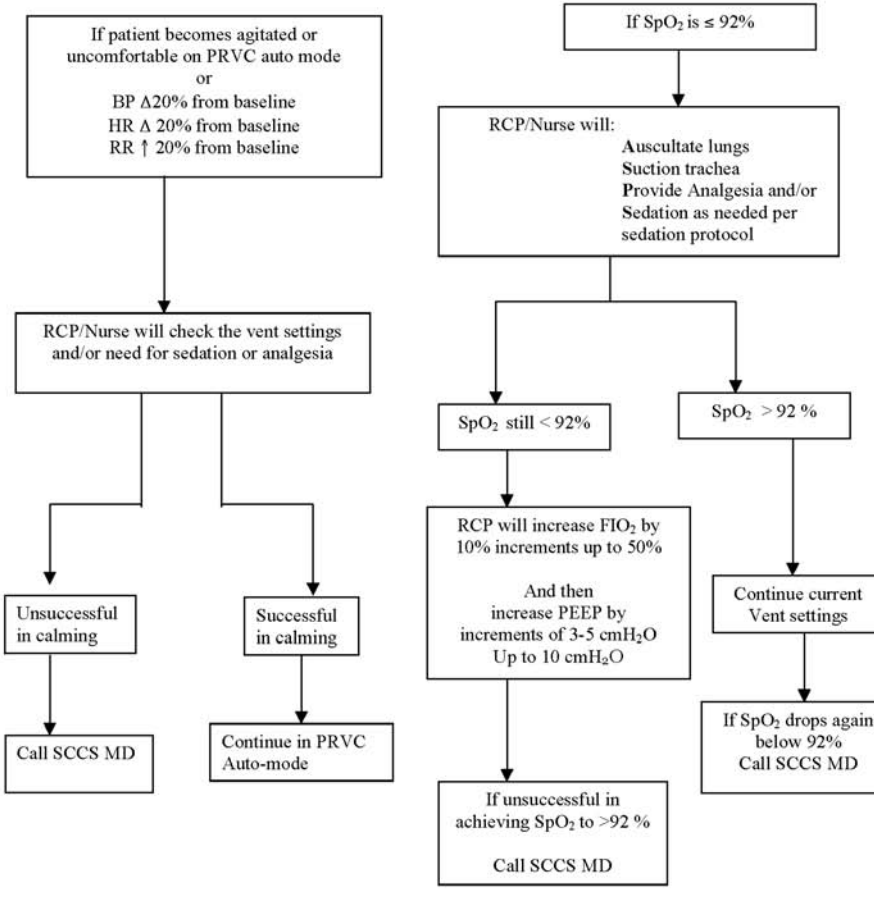
DCD Process Overview

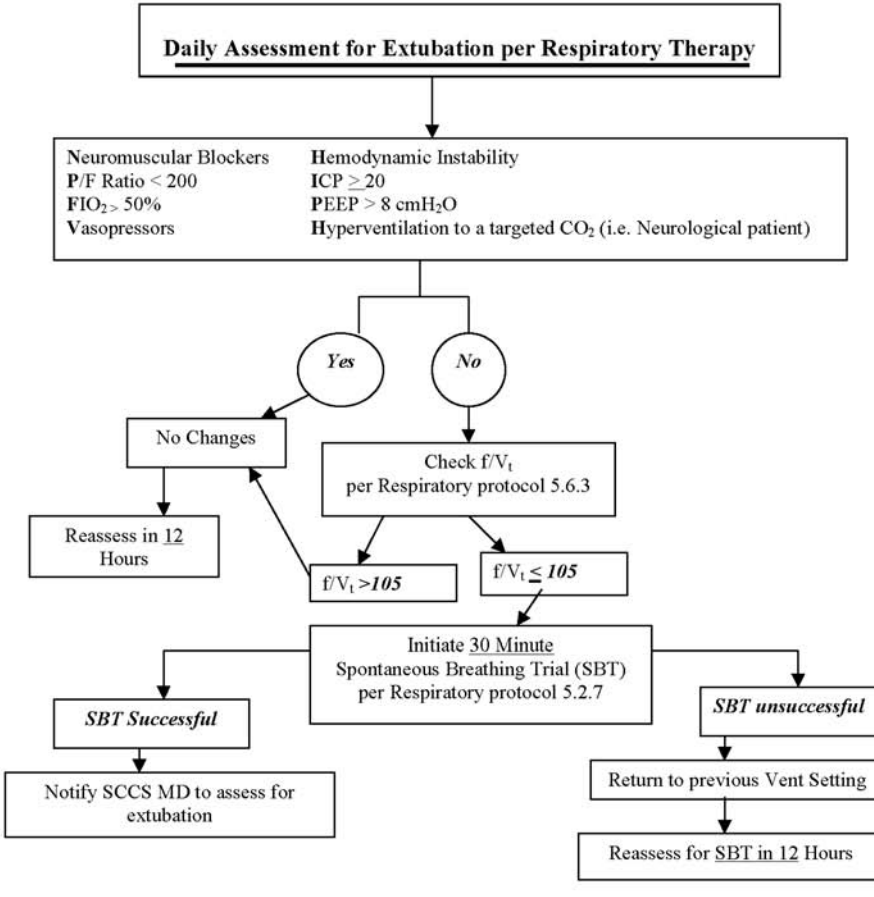
Donation after Cardiac Death (DCD) - Pt has suffered severe neuro devastation, but does not meet brain death criteria and family has decided to w/d mechanical ventilation - Huddle has been performed - WRTC has spoken w/ family and they wish to donate
DCD Evaluation Tool (must have family's permission and Dr's order to perform this tool) - Predicts likelihood pt will cardiac arrest w/in 1 hr post extubation (time period in which organs can still be recovered for transplantation) - Remove pt from ventilator for 10 min - Evaluate pt's respiratory rate, tidal volume, O2 sats, and NIF - Considers other factors: BMI, age, pressors, etc
Donor Management - Do not discharge/readmit (pt is still under hospital's care) - Continue all previous orders - Draw blood for serology, HLA tissue typing, multiple labs, ABGs - Prepare for A-line placement - Draw cultures- then administer antibiotics - CXR
Organ Allocation - WRTC Coordinator places organs w/ potential recipients
Organ Recovery in OR - Attending physician present to provide comfort care measures and pronounce pt in OR - Call OR and give report - Assist w/ pt transport to OR - Nurse may be required to remain in OR and help provide family support during/after pt extubation - Assess availability of Respiratory Therapist for OR
***IF* pt arrests w/in 1 hr post extubation** - Expedited organ recovery ensues
***IF* pt does *NOT* arrest w/in 1 hr post extubation** - Pt is taken back to ICU w/ continued comfort care measures - Call WRTC w/ pt's Time of Death

Preserving Donation Options

Preserving the Option of Donation -If pt does not meet criteria for brain death, but WRTC is to follow pt as a Potential Organ Donor (POD)
Guidelines (as long as does not interfere w/ pt's standard care) -Maintain MAP >70 -Maintain pO2 > 100 -Maintain urine output between 100-200 cc/hr -Correct Diabetes Insipidus (urine spec grav <1.005, Na >150, UO > 5cc/kg/hr) w/ Vasopressin or DDAVP -Correct any acid/base imbalances -Correct any electrolyte imbalances
Notify WRTC of the following… -Brain death testing is planned -Discussion of withdrawal of care (comfort care) is planned -Pt becomes hemodynamically unstable -Family brings up donation


Physician writes initial order for S.C.C.S. Ventilator Protocol. RCP writes an order for each ventilator change made as "change per S.C.C.S. Protocol" (it is not necessary to contact the physician with each change as long as the protocol is followed)
Initial Ventilator Settings:
PRVC Auto Mode
V_t 8 ml/Kg (IBW)
PEEP 5 cm H_2O
Set RR to Achieve Ve 8-10 lpm
FIO_2 - 100% With Rapid Wean to 40% if $SpO_2 \geq 92\%$
ABG in 30"
RCP/Nurse Will Call SCCS MD If:
pH ≤ 7.30 or ≥ 7.50
PO2 ≤ 60 mmHg
PCO2 ≤ 35 or ≥ 45 mm Hg
SpO_2 < 92 %
Changes per SCCS MD
ABG 30" after changes
ABG Within Parameters and Patient is Stable
Continue Current Settings


If patient becomes agitated or uncomfortable on PRVC auto mode
or
BP Δ20% from baseline
HR Δ 20% from baseline
RR ↑ 20% from baseline
RCP/Nurse will check the vent settings and/or need for sedation or analgesia
Unsuccessful in calming
Call SCCS MD
Successful in calming
Continue in PRVC Auto-mode
If SpO_2 is ≤ 92%
RCP/Nurse will:
Auscultate lungs
Suction trachea
Provide Analgesia and/or Sedation as needed per sedation protocol
SpO_2 still < 92%
RCP will increase FIO_2 by 10% increments up to 50%
And then increase PEEP by increments of 3-5 cmH_2O Up to 10 cmH_2O
If unsuccessful in achieving SpO_2 to >92 %
Call SCCS MD
SpO_2 > 92 %
Continue current Vent settings
If SpO_2 drops again below 92% Call SCCS MD



Approved by:

Thomas P. Malinowski, RRT
Director
Respiratory Care Services

Date

	Adult Analgesia/Sedation Orders for the Mechanically Ventilated Patient (These orders do not apply for patients on Bi-PAP)	
Date/Hour	_ Discontinue all current analgesics and sedatives _ Range orders should be administered at the lowest dose initially. If this does not achieve the desired outcome then the higher dose a may be used. _ Patient goal for pain (Scale 0-10)_____- titrate and taper therapy to maintain goal (wean analgesia according to Analgesic/Sedation Weaning Protocol) If patient is unable to communicate, pain should be assessed through subjective observation of pain-related behaviors (movement, facial expression, and posturing) and physiologic indicators (heart rate, blood pressure, and respiratory rate) and the change in these parameters following analgesic therapy. _ Patient goal for sedation (Use Richmond Agitation-Sedation Scale (RASS)_____- titrate and taper therapy to maintain goal (wean sedation according to Analgesic/Sedation Weaning Protocol) _ Assess RASS and/or Pain Scales every four hours when sedation/pain goal has been achieved and every one hour during medication titration _ Hold scheduled doses of sedation and/or analgesia for a RASS of -3, -4 or -5 _ Consider daily wake-up if possible (if considered, and patient becomes agitated, consider restarting _ the dose of sedative and titrate up as needed) _ Nursing facilitates discontinuation of this order set upon patient extubation	Printed MD Name ID # Signature
Date/Hour	**PAIN CONTROL (Choose either Fentanyl or Morphine)** **Fentanyl (Preferred agent for hemodynamic instability)** ☐ **Loading Dose:** 25-50 mcg IV bolus every 5 minutes PRN to maintain pain goal or maximum dose of 200 mcg is given in the first hour ☐ **Maintenance Dose-Scheduled**: If less than 200 mcg of Fentanyl is given in the first hour, Fentanyl IV bolus 50 mcg every 3 hours to maintain pain goal ☐ **Maintenance Dose-Continuous Infusion:** If 200 mcg of Fentanyl is given in the first hour, begin Fentanyl, continuous IV Infusion starting at 25 mcg/hr, may titrate 10 mcg/hr every 5 minutes up to 100 mcg/hr ☐ **Breakthrough Dose**: Fentanyl 25-50 mcg IV every 2 hours PRN prior to procedures or for breakthrough pain _ When pain score is at level 0 for 6 consecutive hours without breakthrough dosing, decrease Fentanyl infusion by 5 mcg/hr every 4 hours until Fentanyl is 10 mcg/hr (maintain pain goal), then implement Standing Orders for Weaning Analgesia and Sedation ---------- **Morphine** ☐ **Loading Dose:** 2-5 mg IV bolus every 5 minutes PRN to maintain pain goal or maximum dose of 20 mg is given in the first hour ☐ **Maintenance Dose-Scheduled :** If less than 20 mg of Morphine is given in the first hour, Morphine IV bolus 5 mg every 4 hours to maintain pain goal ☐ **Maintenance Dose-Continuous Infusion:** If 20 mg of Morphine is given in one hour, begin Morphine, continuous IV Infusion starting at 2 mg/hr, may titrate 1 mg/hr every 5 minutes up to 10mg/hr ☐ **Breakthrough Dose:** Morphine 2-5 mg IV every 2 hours PRN prior to procedures or for breakthrough pain _ When pain score is at level 0 for 6 consecutive hours without breakthrough dosing, decrease Morphine infusion by 0.5 mg/hr every 4 hours until Morphine is 1mg/hr (maintain pain goal), then implement Standing Orders for Weaning Analgesia and Sedation	Printed MD Name ID # Signature

PATIENT IDENTIFICATION	DRUG SENSITIVITIES	**INOVA HEALTH SYSTEM** **PHYSICIAN'S ORDERS**
		PHA CAT. NO. PKGS **Page 1 of 2**

	SEDATION CONTROL **(Use either Midazolam, Lorazepam or Propofol for General Sedation)**	
Date/Hour	**Midazolam (Preferred agent for short term sedation – less than 96 hours)** ☐ **Loading Dose** 2-5 mg IV bolus every 5 minutes PRN to RASS goal or maximum dose of 20 mg is given in the first hour of sedation management ☐ **Maintenance Dose- Scheduled:** If less than 20 mg of Midazolam is given in the first hour, Midazolam IV bolus 5 mg every 4 hours to maintain RASS goal ☐ **Maintenance Dose-Continuous Infusion:** If 20 mg of Midazolam is given in the first hour, begin Midazolam, continuous IV infusion starting at 2 mg/hr, may titrate 1 mg/hr every 5 minutes up to 15 mg/hr ☐ **Breakthrough Dose:** Midazolam 2-5 mg IV every 2 hours PRN for break through agitation _ When RASS goal is achieved for 6 consecutive hours without requiring breakthrough dosing, decrease continuous infusion by 0.5 mg/hour every 4 hours until Midazolam is 1 mg/hr (maintain RASS goal), then implement Standing Orders for Weaning Analgesia and Sedation --- **Lorazepam** ☐ **Loading Dose**: 1-4 mg IV bolus every 5 minutes PRN to RASS goal or a maximum dose 16 mg is given in the first hour of sedation management ☐ **Maintenance Dose Intermittent**: If less than 16mg of Lorazepam is given in the first hour, begin Lorazepam IV bolus 2 mg every 4 hours to maintain RASS goal ☐ **Maintenance Dose Continuous Infusion:** If 16 mg of Lorazepam is given in the first hour, begin Lorazepam, continuous IV infusion starting at 1 mg/hr, may titrate 1 mg /hr every 5 minutes up to 10 mg/hr ☐ **Breakthrough Dose**: Lorazepam 1-4 mg IV bolus every 2 hrs PRN for break through agitation _ When RASS goal is achieved for 6 consecutive hours without requiring breakthrough dosing, decrease continuous infusion by 0.5 mg/hour every 4 hours until Lorazepam is 1 mg/hr (maintaining RASS goal), then implement Standing Orders for Weaning Analgesia and Sedation --- **Propofol (Use for patients requiring frequent neurological checks and short term sedation - less than 72 hours)** ☐ **Loading Dose** 1- 2 mg/kg/hr continuous IV infusion ☐ **Maintenance Dose** Titrate by 0.3 mg/kg/hr every 5 minutes to RASS goal or a maximum of 3mg/kg/hr is given ☐ **Maintenance Dose**: If continuous IV infusion is required for more than 72 hours, change to Lorazepam 1 mg/hr continuous infusion, may titrate Lorazepam up to 10 mg/hr to maintain RASS goal	Printed MD Name ID # Signature
	☐ If delirium is suspected, consult physician for Haloperidol dosing	

PATIENT IDENTIFICATION	DRUG SENSITIVITIES	**INOVA HEALTH SYSTEM** **PHYSICIAN'S ORDERS**

ORDERS FOR WEANING ANALGESIA and SEDATION

	_ Discontinue all current analgesic and sedation medications	
Date/ Hour	**WEANING MORPHINE OR FENTANYL** **<u>Short term analgesia (Less than or equal to 7 days)</u>** _ Once Morphine is 1 mg/hr or Fentanyl is 10 mcg/hr, stop continuous infusion and start Morphine 1-4 mg every 2 hours PRN **<u>Long term analgesia (Greater than 7 days)</u>** _ Clonidine topical patch 1 mg/24hr once per week (SB/P must be greater than 110 mmHg) _ Once Morphine is 1 mg/hr or Fentanyl is 10 mcg/hr, stop continuous infusion and start: _ Day One: Morphine 4 mg IV every 6 hours for 24 hours _ Day Two: Morphine 3 mg IV every 6 hours for 24 hours _ Day Three: Morphine 2 mg IV every 6 hours for 24hours _ Day Four: Morphine 1 mg IV every 6 hours for 24hours _ Morphine 2-4 mg IV every 2 hours PRN for breakthrough pain	Printed MD Name ID # Signature
Date/Hour	**Weaning Midazolam or Lorazepam** **<u>Short term sedation (less than or equal to 7 days)</u>** _ When Lorazepam or Midazolam is 1mg/hr, stop continuous infusion and begin bolus dosing of Lorazepam 1-2 mg every 2 hours PRN to maintain RASS goal **<u>Long term sedation greater than 7 days</u>:** _ Decrease continuous infusion by 0.5 mg/hour every 4 hours to maintain RASS goal _ Once Lorazepam or Midazolam is tapered to 1 mg/hr, stop continuous infusion and start: _ Day One Lorazepam 2 mg IV or NG every 6 hours for 24 hours _ Day Two: Lorazepam 2 mg IV or NG every 8 hours for 24 hours _ Day Three: Lorazepam 2 mg IV or NG every 12 hours for 24 hours _ Day Four: Lorazepam 2 mg IV or NG every 24 hours for 24 hours _ Lorazepam 1-2 mg IV every 2 hours PRN for breakthrough agitation	Printed MD Name ID # Signature

PATIENT IDENTIFICATION	DRUG SENSITIVITIES	**INOVA HEALTH SYSTEM** **PHYSICIAN'S ORDERS** **PHA CAT. NO. PKGS** **Page 1 of 1**

Spinal Cord Injury (SCI) Care

Airway

Determine need for definitive airway early.

Hold head & neck with in-line stabilization during intubation. Flexion or extension is prohibited.

If SCI is cervical, watch closely for ascending injury and airway loss.

Breathing

Aggressive pulmonary care is required if not intubated: spirometry, chest physiotherapy, breathing & coughing exercises, "quad coughs".

If intubated, bag & suction as needed.

Watch for lobar collapse of lungs.

Consider Stryker or other rotating bed.

Circulation

Avoid hypotension. Optimize perfusion. Follow base deficit or lactate to guide resuscitation.

Watch for neurogenic shock. Treat with aggressive fluid resuscitation first, vasopressors second. If hypotensive & bradycardic use dopamine. If hypotensive and heart rate normal use phenylephrine (watch for bradycardia with this drug).

Consider pulmonary artery catheter.

Neurologic issues

For blunt SCI with significant neurologic deficit, begin SCI Steroid Protocol:

Dose: 30 mg/kg Methylprednisolone (Solumedrol) i.v. over 15 minutes; after 45 more minutes start drip of 5.4 mg/kg for 23 hours.

- Must start steroids within 8 hours of INJURY. If >8 hours, do NOT give steroids.
- If started within 3 hours, continue for 24 hours total
- If started from 3 to 8 hours, continue for 48 hours total

Consult spine surgeon. If surgery indicated, do procedure early if possible to avoid complications.

Keep bed flat, in full spine precautions, until safe to do otherwise.

Continued…

Venous thromboembolism prophylaxis

Start lovenox 30mg sq q12 hours as soon as appropriate.
Use TEDs & SCDs until lovenox started.
Consider IVC filter (permanent or removable).

Gastrointestinal

Expect ileus. Consider NG tube.
Provide gastritis prophylaxis. Give H2 blocker while on steroids.
Provide early enteral nutrition.
Start bowel regimen early: softener, stimulant, suppositories, enemas.

Urologic

Place urinary catheter. Plan bladder training during recovery.

Rehabilitation

Consult PM&R on admission.
Consult PT & OT on admission.
Discuss rehabilitation with patient and family early.
Consult social work.
Consider psychological support (REBUILD program, social worker, psychiatry).

Skin Care

Prevent decubitus ulcers. Remove from backboard ASAP.
Frequent surveillance for skin breakdown, especially under collar or brace.

	Severe Traumatic Brain Injury Orders	
Date/Hour	**If applicable, eICU category** ☐ I ☐ II ☐ III ☐ IV	
	_ Range orders should be administered at the lowest dose initially. If this does not achieve the desired outcome then the higher dose a may be used.	
	Monitor ☐ Intraparenchymal (Bolt) ☐ Ventriculostomy: Set drainage chamber at _____cm H_2O per Neurosurgery ☐ Licox monitor if available[Refer to neurosurgical guidelines for use of this monitor] ☐ Other ☐ Continuous Arterial Pressure ☐ Central Venous Pressure ☐ Pulmonary Artery Catheter, hemodynamic profile every _____ hours	
	Cervical Collar ☐ Aspen ☐ Other_____	
	Temperature Control ☐ Temperature (in Centigrade) every 4 hours if less than 38 C, every hour if greater than 38 C ☐ Treat increase temp with Acetaminophen 650mg PO/NG/OG/PR every 4 hours PRN ☐ If temperature remains elevated in one hour, use cooling blanket under patient (avoid shivering) ☐ If temperature remains elevated in two hours, ice bags to groin and axilla	
	Fluid volume management: ☐ Maintenance IV fluids: Normal Saline with _____ mEq KCl/L at _____mL/hour **Goals**: ☐ PCWP_____(10-15 mm Hg) ☐ CI greater than or equal to _____(2.6 L/min/m^2) ☐ MAP _____(greater than or equal to 75 mmHg) ☐ CPP _____(greater than or equal to 60 mmHg) ☐ $PbtO_2$ _____(greater than 20 mmHg) ☐ IF PCWP is less than 10 mmHg give Normal Saline 500 mL bolus ☐ Reevaluate PCWP in 15 minutes ☐ If less than 10 mmHg repeat Normal Saline 500 mL bolus ☐ IF PCWP is greater than 10 mmHg and CPP is less than 60 mmHg, give Normal Saline 500 mL Bolus	

Severe Traumatic Brain Injury Orders

Notification: Call SCCS surgical resident (if unavailable, call SCCS attending)

Printed MD Name

ID #

Signature

- ☐ $PaCO_2$ is less than 33 mmHg or greater than 42mmHg
- ☐ PCWP less than 10 mmHg
- ☐ ICP is greater than 22 mm Hg for greater than 10 minutes
- ☐ CPP is less than 60 mmHg for greater than 10 minutes
- ☐ Acute neurologic deterioration, i.e., pupillary changes or motor score decreased by 2
- ☐ Suspected diabetes insipidus (DI) (Serum Na greater than 150, urine output greater than 200 mL/hr for 2 hours, urine specific gravity less than 1.005)
- ☐ Inability to maintain temp less than or equal to 38 C
- ☐ Notify neurosurgery resident/attending if ICP waveform is flat/lost/poor

Anti-convulsant

- ☐ Phenytoin loading dose: _____mg (18mg/kg) IV at 25 mg/minute
- ☐ Maintenance dose: (1st dose to be given 24 hours after loading dose completed)
  - ☐ Weight less than 65kg: Phenytoin 100 mg IV every 8 hours for 7 days
  - ☐ Weight greater than or equal to 65kg : Phenytoin 150 mg IV every 8 hours for 7 days
- ☐ Free Phenytoin levels 72 hours after loading dose and prn

Sedation

- ☐ Propofol maintenance dose: Continuous IV infusion of 1mg/kg/hr
- ☐ Titrate Propofol by 0.3 mg/kg/hr every 5 minutes to a dose of 5mg/kg/hour to keep RASS at -3 to - 4
  (Contact SCCS to set lower RASS Level if ICP greater than or equal to 22 mmHg)

_ **After 48 hours, discontinue Propofol and start Lorazepam**

- ☐ Lorazepam loading dose: 2-5 mg IV bolus every 5 minutes PRN to obtain RASS -3 to - 4
- ☐ Lorazepam maintenance dose: Continuous IV infusion starting at 1 mg/hour
- ☐ Titrate Lorazepam 1mg/hour every 5 minutes up to 10 mg/hour to keep RASS at -3 to -4
  (Contact SCCS to set lower RASS Level if ICP greater than or equal to 22 mmHg)
- ☐ Lorazepam 1- 4 mg IV bolus every 2 hours PRN for breakthrough agitation

	Severe Traumatic Brain Injury Orders	
Date/Hour	**Analgesia** Morphine loading dose: 2-5 mg IV bolus every 5 minutes PRN to maintain pain level of 0 to a maximum dose of 20 mg Morphine continuous infusion: 2 mg/hr to maintain a pain scale of 0 Titrate by 1 mg/hour every 5 minutes up to 10 mg/hour Morphine 2-5 mg IV every 2 hours PRN prior to procedures or for breakthrough pain	
	ICP Control: IF ICP is greater than 22 mmHg for greater than or equal to 10 minutes do the following in **sequential order** _ Drain CSF per order from neurosurgery _ Notify SCCS resident or SCCS attending for **continuing** ICP problems (or high $PbtO_2$ if licox monitor) _ IF ICP remains greater than 22 mmHg for 10 minutes and patient is agitated, and patient is on Lorazepam, repeat lorazepam 5 -10 mg and increase infusion by 1mg/hour every 5 minutes up to 20 mg/hour _ IF ICP remains greater than 22 mmHg for 10 minutes and patient is agitated, repeat Morphine 5-10 mg and increase infusion by 1mg/hour every 5 minutes up to 20 mg/hour _ IF ICP REMAINS greater than 22 mmHg give Mannitol (0.5 Gm/kg)_____Gm IV bolus (times one) **(consult with SCCS for subsequent doses)** _ IF ICP REMAINS greater than 22 mmHg and If patient's heart rate is less than 100 bpm, give Pancuronium (0.1 mg/kg)_____mg IV bolus and begin IV infusion of 0.8-1.7 mcg/kg/minute (to achieve 2/4 train of four) If patient heart rate is greater than 100 bpm, give Vecuronium (0.1mg/kg)_____mg IV bolus and begin IV infusion of 0.8-1.7 mcg/kg/min (to achieve 2/4 train of four) _ IF **ICP is greater than 25 for greater than 30 min**: Notify SCCS resident & attending & neurosurgery to **consider** Pentobarbital Coma and or Craniectomy (refer to neurosurgical guidelines)	

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DO NOT USE: U, IU, µg, QOD, QID, QD/qd, AU, AS, AD, MS, MSO4, MgSO4, AZT, Nitro drip

PEDIATRIC SEVERE TRAUMATIC BRAIN INJURY ADMISSION PHYSICIANS ORDERS

(Keep ALL pages of this order set together; if a full page is not desired, draw a line across the page and sign)

Allergies: Complete upon admission ☐ No Known Drug Allergies ☐ No Known Food Allergies

Allergies: _____ (Reaction): _____

Date	Time	
		☑ Weight _____ kg ☐ Height _____ cm ☐ BSA _____ m^2
		1. **GENERAL ORDERS**
		☑ Admit PICU
		☑ Trauma Attending _____ page # _____
		Resident _____ page # _____
		☑ Neurosurgeon _____ page # _____
		Resident _____ page # _____
		☑ Other Consultant Surgeons _____
		☑ PICU / Physical Medicine and Rehabilitation Consults
		☑ Condition _____
		☑ Vital Signs with Neuro checks every 1 hour
		☑ Continuously monitor HR, RR, BP, CVP, $ETCO_2$, temperature, pulse oximetry
		☑ If JVB present, continuously monitor JVB O_2 sats and calibrate with co-oximetry every 24 hrs
		☑ Strict intake and output
		☑ Foley catheter
		☑ NG/OG to low continuous suction
		☑ CVP, arterial line, and JVB catheter (if present), to be maintained with NS + 2 unit/mL of heparin at 2.0 mL/hr if < 10 kg and 3 mL/hr if > 10 kg
		☑ HOB at _____ degrees
		☐ Cervical Spine cleared
		☐ Cervical Spine not cleared _____ collar
		☐ PAS/TEDS/Ace Wraps to lower extremities
		☑ Maintain core temperature 36.5° - 37.5° C with antipyretics, cooling blanket, or fan
		☑ If admission temperature <36.5, call MD
		2. **DIET**
		☑ NPO
		☐ RN to place ND/OD for tube feedings after 24 hours
		3. **IV FLUIDS**
		☑ NS + _____ meq KCl / L at a total IV fluid rate of _____ cc/hr *(maintenance)*
		☑ DsNS + _____ meq KCl / L at above total IV rate when AccuCheck < 120

Print Name & ID#

☐ Therapeutic Interchange not permitted for _____ (drug name)

Physician's Signature

Date/Time: _____

☐ Order read back and verified *(for TO)*

PATIENT IDENTIFICATION

INOVA FAIRFAX HOSPITAL
PEDIATRIC SEVERE TRAUMATIC BRAIN INJURY ADMISSION

PHYSICIANS ORDERS

Page 1 of 4

CAT # 83507 / R041406
PKGS OF 100

MR 7-00

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PEDIATRIC SEVERE TRAUMATIC BRAIN INJURY ADMISSION PHYSICIANS ORDERS

(Keep ALL pages of this order set together; if a full page is not desired, draw a line across the page and sign)

Date	Time	
		☑ Weight _____ kg ☐ Height _____ cm ☐ BSA _____ m^2
		4. **MEDICATIONS**
		☐ Sucralfate _____ mg NG every 6 hrs *(50 mg/kg/day; 1 gm every 6 hrs max)*
		☐ Docusate _____ mg ND every 12 hrs (> *12 yrs - 100 mg every 12; 2-12 yrs - 50 mg every 12*)
		☐ Phenytoin load _____ mg IV over 20 minutes *(20 mg/kg)*
		☑ Phenytoin maintenance _____ mg IV every 12 hrs x 7 days *(5-7 mg/kg/day, BID)*
		☑ Acetaminophen _____ mg NG/PR every 4hrs PRN temp > 38° C *(15 mg/kg/dose)*
		☐ Ibuprofen _____ mg NG every 6 hrs PRN temp > 38° C *(10 mg/kg/dose)*
		☑ Fentanyl _____ mcg IV every 1 hr PRN pain *(1-2 mcg/kg/dose)*
		☑ Midazolam _____ mg IV every 1 hr PRN anxiety *(0.1 mg/kg/dose)*
		☑ Vecuronium _____ mg IV every 1 hr PRN protocol *(0.1 mg/kg/dose)*
		☐ Fentanyl Continuous IV Infusion - start at _____ mcg/hr *(1-2 mcg/kg/hr)*
		☐ 0.5 mg in 50 mL NS, 1 mL/hr = 10 mcg/hr
		☐ 1 mg in 50 mL NS, 1 mL/hr = 20 mcg/hr
		☐ 2.5 mg in 50 mL (undiluted), 1 mL/hr = 50 mcg/hr
		☐ Midazolam Continuous IV Infusion - start at _____ mg/hr *(0.1 mg/kg/hr)*
		☐ 50 mg in 50 mL NS, 1 mL/hr = 1 mg/hr
		☐ 250 mg in 50 mL (undiluted), 1 mL/hr = 5 mg/hr
		☑ Lidocaine _____ mg for suctioning protocol *(1 mg/kg/dose; max 6 mg/kg/day)*
		☐ Dopamine drip to the bedside: _____ mg dopamine in 100 mL NS *(12 x wt in kg = mg drug in 100 mL)* 1 mL/hr = 2 mcg/kg/min
		Send standard concentration drip if patient over 60 kg
		☐ Other _____
		5. **SUCTIONING PROTOCOL**
		☑ 3 minutes before suctioning, IV bolus doses of fentanyl, versed, vecuronium & lidocaine
		☑ Supplemental ventilator breaths on 100% FIO_2 for 30 seconds
		☑ Suction every 8 hrs routine + PRN
		6. **VENTILATION MANAGEMENT**
		☑ Maintain $PaCO_2$ 35 - 40 Torr (30 - 35 Torr if using mild hyperventilation in order section 9)
		☑ Correlate $ETCO_2$ to $PaCO_2$ on ABG

Print Name & ID#

☐ Therapeutic Interchange not permitted for _____ (drug name)

Physician's Signature

Date/Time: _____

☐ Order read back and verified *(for TO)*

PATIENT IDENTIFICATION

INOVA FAIRFAX HOSPITAL
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PEDIATRIC SEVERE TRAUMATIC BRAIN INJURY ADMISSION PHYSICIANS ORDERS

(Keep ALL pages of this order set together; if a full page is not desired, draw a line across the page and sign)

Date	Time	
		☑ Weight _____ kg ☐ Height _____ cm ☐ BSA _____ m^2
		7. LABS FOR THE FIRST 48 HOURS ☑ CBC without diff, CHEM 8 every AM ☑ ABG with lytes and bedside glucose monitoring every 6 hrs ☑ CXR every AM ☐ Other _____
		8. CPP VOLUME MANAGEMENT CPP goal: MABP goal: ☐ *(< 3 yrs)* 50 mm Hg 65 - 80 mm Hg ☐ *(3-12 yrs)* 55 mm Hg 70 - 85 mm Hg ☐ *(> 12 yrs)* 60 mm Hg 75 - 90 mm Hg ☑ If MABP less than goal, but CPP within acceptable limits – No Therapy ☑ If MABP ☐ *(< 3 yrs)* less than 80 mm Hg and CPP less than 50 mm Hg ☐ *(3-12 yrs)* less than 85 mm Hg and CPP less than 55 mm Hg ☐ *(> 12 yrs)* less than 90 mm Hg and CPP less than 60 mm Hg Give 10 cc/kg NS bolus over 5 - 10 minutes if CVP < 10 May repeat x 1 if CVP remains < 10 If MABP remains less than goal, Call MD for further volume and/or pressor therapy
		9. INCREASED ICP MANAGEMENT ☑ If ICP > 20 mm Hg for > 5 minutes or > 30 mm Hg for > 1 minute 1 - Assure volume and MABP status as outlined in #8 using volume and pressors 2 - Remove external stimuli 3 - With continued elevation, open ventriculostomy drain, if present, for 10 minutes 4 - With continued elevation, fentanyl bolus and start infusion if not already present 5 - With continued elevation, versed bolus and start infusion if not already present 6 - With continued elevation, vecuronium bolus 7 - Call MD if ICP remains > 20 mm Hg for further therapy Tier 1 - mannitol, hypertonic (3%) saline, and mild hyperventilation (pCO_2 30-35) Tier 2 - thiopental coma, aggressive hyperventilation (pCO_2 < 30), aggressive hyperosmolar therapy (Na > 160), lumbar drain, decompressive craniectomy, and mild hypothermia (32°-34°C)
		10. NOTIFICATIONS ☑ Blood glucose > 200 or < 60 mg/dL ☑ $PaCO_2$ < 35 or > 40 Torr (< 30 or > 35 if using mild hyperventilation in order section 9) ☑ Oxygen saturations < 96% on FIO_2 of 60% ☑ Serum Na < 135 or > 150 meq/L, K < 3.0 or > 5.0 meq/L, ionized Ca < 2.0 meq/L ☑ Urine output < 1 mL/kg/hr x 2 hrs or hourly output > hourly intake x 2 hrs ☑ ICP waveform is flat / lost / poor ☑ Changes in neurological status ☑ If present, sustained JVB oxygen saturations < 65% or > 85%

Print Name & ID#

_____

_____

☐ Therapeutic Interchange not permitted for _____ (drug name)

_____

_____

Physician's Signature

_____

_____

_____

Date/Time: _____

☐ Order read back and verified *(for TO)*

PATIENT IDENTIFICATION

INOVA FAIRFAX HOSPITAL
PEDIATRIC SEVERE TRAUMATIC BRAIN INJURY ADMISSION

PHYSICIANS ORDERS

Page 3 of 4

CAT # 83507 / R041406
PKGS OF 100

MR 7-00

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PEDIATRIC SEVERE TRAUMATIC BRAIN INJURY ADMISSION PHYSICIANS ORDERS

(Keep ALL pages of this order set together; if a full page is not desired, draw a line across the page and sign)

Date	Time	
		☑ Weight _____ kg ☐ Height _____ cm ☐ BSA _____ m^2
		ICP MONITORING
		☑ Continuously monitor ICP and CPP *(MABP - ICP)*
		☐ ICP Bolt
		☐ Ventriculostomy with ICP Bolt, drainage bag at _____ cm
		☐ Ventriculostomy with externally transduced ICP
		☐ Transduce to the level of the external acoustic meatus, drainage bag at _____ cm
		☑ Record ICP only when system is OFF to the drainage bag
		☑ ICP monitor dressing change every _____

_____

Print Name & ID#

_____

_____

☐ Therapeutic Interchange not permitted for _____ (drug name)

_____

_____

Physician's Signature

_____

_____

_____

Date/Time: _____

☐ Order read back and verified *(for TO)*

PATIENT IDENTIFICATION

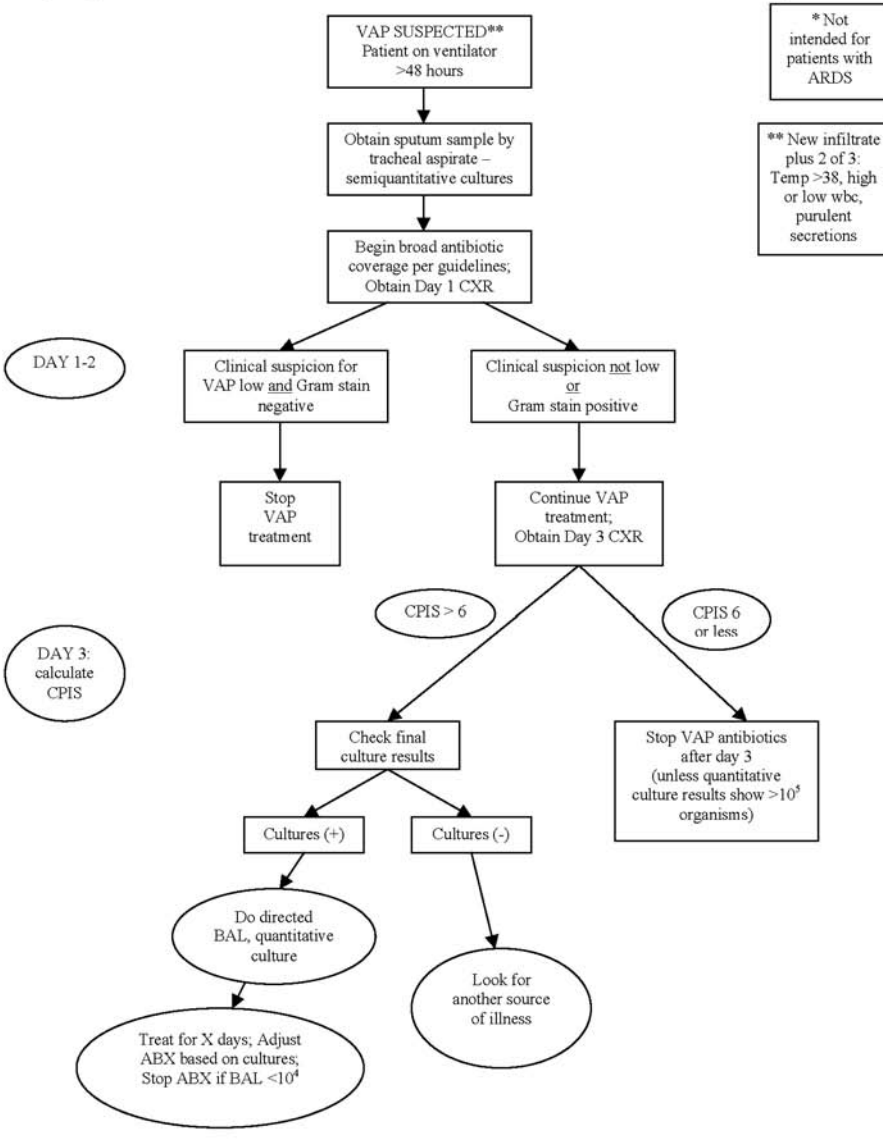
INOVA FAIRFAX HOSPITAL
PEDIATRIC SEVERE TRAUMATIC BRAIN INJURY ADMISSION

PHYSICIANS ORDERS

CAT #83507 / R041406
PKGS OF 100

MR 7-00

Surgical Critical Care Service Ventilator Associated Pneumonia Protocol*



APPENDIX

CLINICAL PULMONARY INFECTION SCORE CALCULATION*†

Temperature (°C)
- > or equal to 36.5 and < or equal to 38.4 = 0 point
- > or equal to 38.5 and < or equal to 38.9 = 1 point
- > or equal to 39 and < or equal to 36 = 2 points

Blood leukocytes, mm³
- > or equal to 4,000 and < or equal to 11,000 = 0 point
- < 4,000 or > 11,000 = 1 point + band forms > equal to 50% = add 1 point

Tracheal secretions
- Absence of tracheal secretions = 0 point
- Presence of nonpurulent tracheal secretions = 1 point
- Presence of purulent tracheal secretions = 2 points

Oxygenation: Pa_{O_2}/Fi_{O_2}, mm Hg
- > 240 or ARDS (ARDS defined as Pa_{O_2}/Fi_{O_2}, or equal to 200, pulmonary arterial wedge pressure
- < or equal to 18 mm Hg and acute bilateral infiltrates) = 0 point
- < or equal to 240 and no ARDS = 2 points

Pulmonary radiography
- No infiltrate = 0 point
- Diffuse (or patchy) infiltrate = 1 point
- Localized infiltrate = 2 points

Progression of pulmonary infiltrate
- No radiographic progression = 0 point
- Radiographic progression (after CHF and ARDS excluded) = 2 points

Culture of tracheal aspirate
- Pathogenic bacteria‡ cultured in rare or light quantity or no growth = 0 point
- Pathogenic bacteria cultured in moderate or heavy quantity = 1 point
- Same pathogenic bacteria seen on Gram stain, add 1 point

Definition of abbreviations: ARDS = acute respiratory distress syndrome; CHF = congestive heart failure; Pa_{O_2}/Fi_{O_2} = ratio of arterial oxygen pressure to fraction of inspired oxygen.

* Modified from Pugin and coworkers (8).

† CPIS at baseline was assessed on the basis of the first five variables, i.e., temperature, blood leukocyte count, tracheal secretions, oxygenation, and character of pulmonary infiltrate. CPIS at 72 h was calculated based on all seven variables and took into consideration the progression of the infiltrate and culture results of the tracheal aspirate. A score > 6 at baseline or at 72 h was considered suggestive of pneumonia.

‡ Predominant organism in the culture.

References:

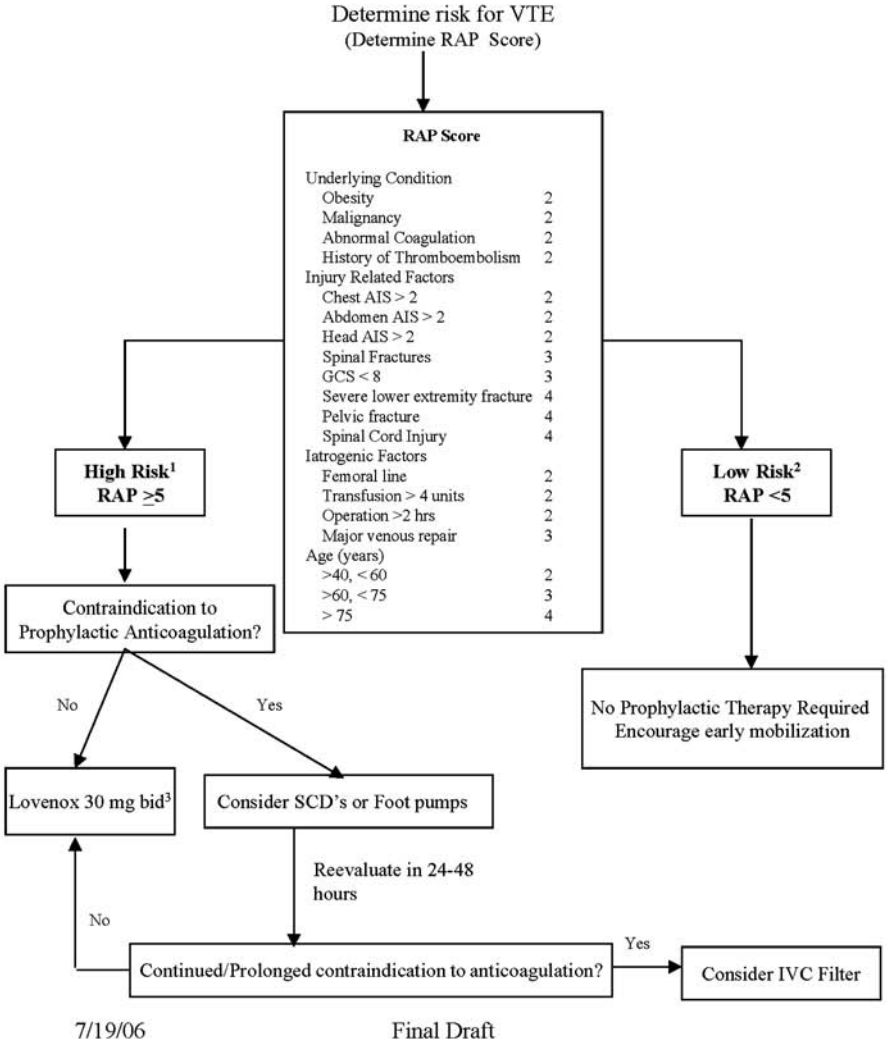
Singh N, Rogers P, Atwood CW, Wagner MM, Yu, VL. Short-course empiric antibiotic therapy for patients with pulmonary infiltrates in the intensive care unit. *Am J Resp Crit Care Med* 2000;162:505-11.
- CPIS table above is from this article

Chastre J, Wolff M, Fagon JY et al. Comparison of 8 vs 15 days of antibiotic therapy for ventilator-associated pneumonia in adults. *JAMA* 2003;290:2588-98.

Luna CM, Blanzaco D, Niederman MS et al. Prospective evaluation of the clinical pulmonary infection score as an early clinical predictor of outcome. *Crit Care Med 2003; 31(3): 676-682*

Micek ST, Ward S, Frazer VJ et al. A randomized controlled trial of an antibiotic discontinuation policy for clinical suspected ventilator-associated pneumonia *Chest 2004; 125:1791-1799*

Algorithm for Venous Thromboembolism Prophylaxis



7/19/06 Final Draft

1. Patients with RAP score ≥5 are considered high risk for the development of DVT

2. RAP scores of < 5 are considered low risk for the development of DVT and prophylaxis is not cost-effective.

3. Low dose unfractionated Heparin has not been show to be effective in preventing venous thromboembolism in trauma patients.

References:

Gearhart, M. M., Luchette, F., Proctor M. C., Lutomski,D. M., Witsken, C., James, L., Davis, K., Johannigman, J. A., Hurst, J. M., Frame, S. B. (2000). The risk assessment profile score identifies trauma patients at risk for deep vein thrombosis. Surgery, 128; 631-638.

Geerts, W. H. Jay, R. M., Code, K. I., et. al. (1994). A prospective study of venous thromboembolism after major trauma. New England Journal of Medicine, 331; 1601-1606

Geerts, W. H., Jay, R. M., Code, K. I., et. al. (1996). A comparison of low-dose heparin with low-molecular weight heparin as prophylaxis against venous thromboembolism after major trauma. New England Journal of Medicine, 336; 701-701.

Rogers, F. B. Cipolle, M. D., Velmahos, G., Rozycki, G. (2001). Practice management guidelines for the management of venous thromboembolism in trauma patients. Eastern Association for the Surgery of Trauma.

The Glasgow Coma Scale

ADULT		CHILD <4 years	INFANT
EYE OPENING			
4	Spontaneous	Spontaneous	Spontaneous
3	To speech	To speech	To speech
2	To pain	To pain	To pain
1	No response	No response	No response
VERBAL RESPONSE			
5	Alert and oriented	Oriented, social, speaks, interacts	Coos, babbles
4	Confused speech	Confused speech, disoriented, consolable, aware	Irritable, cries
3	Inappropriate speech	Inappropriate words, inconsolable, unaware	Cries to pain
2	Unintelligible sounds	Incomprehensible, agitated, restless, unaware	Moans to pain
1	No response	No response	No response
MOTOR RESPONSE			
6	Follows commands	Normal, spontaneous movements	Normal, spontaneous movements
5	Localizes pain	Localizes pain	Withdraws to touch
4	Withdraws to pain	Withdraws to pain	Withdraws to pain
3	Decorticate (flexion)	Decorticate (flexion)	Decorticate (flexion)
2	Decerebrate (extension)	Decerebrate (extension)	Decerebrate (extension)
1	No response	No response	No response

Modifications:
INTUBATED – Add "T" to score
PARALYZED – Add "P" to score

Rancho Los Amigos Levels

Level I – no response
Unresponsive to all stimuli

Level II – generalized
Inconsistent, nonpurposeful, nonspecific reactions to stimuli

Level III – localized response
Inconsistent reaction directly related to type of stimulus presented

Level IV – confused, agitated
Disoriented and unaware of present events with frequent bizarre and inappropriate behavior; attention span is short and ability to process information is impaired

Level V – confused, inappropriate, nonagitated
Nonpurposeful, random or fragmented responses when task complexity exceeds abilities; patient appears alert and responds to simple commands; performs previously learned tasks, but is unable to learn new ones

Level VI – confused, appropriate
Behavior is goal-directed; responses are appropriate to the situation with incorrect responses because of memory difficulties

Level VII – automatic, appropriate
Correct routine responses that are robot-like; appears oriented to setting, but insight, judgement, and problem solving are poor

Level VIII – purposeful, appropriate, stand-by assistance
Correct response, carryover of new learning, no required supervision, poor tolerance for stress, stand-by assistance or minimal cues to do some abstract reasoning tasks or take corrective actions; self-centered

Level IX – purposeful, appropriate, stand-by assistance by request
Stand-by assistance by request to anticipate or correct problems, think of consequences, adjust to task demands. Some stand-by assistance in social situations. May continue to be irritable, depressed or have low frustration tolerance

Level X – purposeful, appropriate, modified independence
May take more time to complete tasks or use compensatory strategies. Social interaction is consistently appropriate. Periods of depression may occur. Irritability and low frustration tolerance when sick, tired or stressed.

INOVA FAIRFAX HOSPITAL

INOVA REGIONAL TRAUMA CENTER

RICHMOND AGITATION SEDATION SCALE

RASS

Score	Term	Description
+4	Combative	Overly combative, violent, immediate danger to staff
+3	Very Agitated	Pulls or removes tube(s) or catheter(s), aggressive
+2	Agitated	Frequent non-purposeful movement, fights ventilator
+1	Restless	Anxious but movements not aggressive, vigorous
0	Alert & calm	
-1	Drowsy	Not fully alert, but has sustained awakening (eye-opening/eye contact) to voice (≥10 seconds)
-2	Light sedation	Briefly awakens with eye contact to voice (<10 seconds)
-3	Moderate sedation	Movement or eye opening to voice (but no eye contact)
-4	Deep sedation	No response to voice, but movement or eye opening to physical stimulation
-5	Unarousable	No response to voice or physical stimulation

Procedure for RASS Assessment

1. Observe patient
   a. Patient is alert, restless or agitated. (score 0 to +4)
2. If not alert, state patient's name and say to open eyes and look at speaker
   b. Patient awakens with sustained eye opening and eye contact. (score -1)
   c. Patient awakens with eye opening and eye contact, but not eye contact. (score -2)
   d. Patient has any movement in response to voice but no eye contact. (score -3)
3. When no response to verbal stimulation, physically stimulate patient by shaking shoulder and/or rubbing sternum.
   e. Patient has any movement to physical stimulation (score -4)
   f. Patient has no response to any stimulation (score -5)

DETERMINATION OF BRAIN DEATH IN ADULTS

5/1/03

I. Definition: Brain death is the irreversible loss of the clinical function of the brain and brainstem.

II. Prerequisites
1. Clinical or imaging evidence of an acute condition compatible with brain death (e.g. trauma, subarachnoid hemorrhage)
2. Irreversibility of the condition
3. Exclusion of conditions that may confound clinical assessment (e.g. severe electrolyte, acid/base, or endocrine disturbance)
4. Absence of hypotension
5. Absence of drug intoxication
6. Core temperature $\geq$ 32°C (90 °F)

III. The three cardinal findings in brain death
1. coma
2. absence of brainstem reflexes
3. apnea

IV. Criteria
1. Coma
   a. no motor response to pain stimulus in all extremities and supraorbital pressure)
2. Absence of brainstem reflexes
   a. no pupillary response to light
   b. no corneal reflexes
   c. no oculocephalic reflex
   d. no caloric response
   e. no pharyngeal (gag) reflex
   f. no tracheal reflex (coughing with tracheal suctioning)
3. Apnea. Positive apnea test consists of:
   a. no respiratory drive at $PaCO_2$ of 60mm Hg or 20mm Hg above baseline
   b. core temperature $\geq$36.5°C (97 °F)
   c. systolic BP $\geq$90mm Hg
   d. absent or corrected diabetes insipidus
   e. normal pO_2

V. Performance of the clinical exam
1. In Virginia, brain death must be confirmed by two licensed physicians(at an arbitrary interval, usually ~6 hours), one of whom must be in a neurological specialty
2. The exam must be clearly documented in the medical record
3. How to perform the apnea test
   a. Prerequisites
      i. temperature $\geq$ 36.5 or 97
      ii. SBP $\geq$ 90mm Hg
      iii. Absent or treated diabetes insipidus
      iv. Normal pCO_2 or $pCO_2 \geq$ 40mm Hg
      v. Normal pO_2 or $pO_2 \geq$ 200mm Hg
   b. Disconnect ventilator, place cannula at level of carina at 8 L/min, monitor pulse oximetry & BP
   c. Draw ABG and reconnect ventilator after 10 minutes
   d. Apnea test positive (brain death) if no respiratory efforts and $pCO_2 \geq$ 60mm Hg OR $\geq$ 20mm Hg over baseline. If respiratory efforts occur the test is negative (not brain dead). If pCO_2 does not meet criteria, the test is indeterminate.

VI. Confirmatory tests
1. Cerebral angiography
2. EEG
3. Transcranial Doppler ultrasound
4. Technetium nuclear flow scan

VII. Confounding conditions
1. severe facial trauma
2. preexisting pupil abnormalities
3. toxic drug levels
4. pulmonary disease causing chronic retention of CO_2

REFERENCES:

1. American Academy of Neurology Summary Statement, 1994
2. Wijdicks EFM. The diagnosis of brain death. N Engl J Med. 2001; 344(16): 1215 – 1221.

Determination of Brain Death Guideline

Suspected cause of coma:_____

Clinical Examination (refer to instructions for completing this form on reverse side)

	First Examination	Second Examination or attestation to 1st exam
Date		
Time (24-hour clock)		
Blood Pressure		
Body Temperature		
Neuroactive drugs absent or worn off		
No electrolyte, acid/base, or endocrine abnormalities		
Responsiveness/movement		
No responsiveness (deeply comatose)		
No movement (no spontaneous movement, no response to painful stimuli, no decorticate/decerebrate posturing).		
Evidence of absent brainstem function		
Absent pupillary light reflex		
Absent corneal, gag, cough reflexes		
Absent oculocephalic reflex (Dolls eyes)		
Absent oculovestibular reflex		

Apnea Test (Performed one time only if apnea confirmed)

Baseline ABG pH _____
PaCO2 _____ mm Hg
PaO2 _____ mm Hg
HCO3 _____ mm Hg

Post Apnea Test ABG pH _____
PaCO2 _____ mm Hg
PaO2 _____ mm Hg
HCO3 _____ mm Hg

Duration of test:_____ minutes

Respiratory Effort? ☐Yes ☐No
Apnea test confirms apnea? ☐Yes ☐No

Pertinent laboratory/radiologic findings:
Other confirmatory tests performed (special circumstances only):

Assessment:
Patient is brain dead Patient is NOT brain dead

_____ _____
Physician signature Date/Time Physician signature Date/Time

Patient Addressograph

Inova Fairfax Hospital

Draft 7/1/05 CPM

Guide to completing the Determination of Brain Death Checklist

The checklist is intended to provide a guideline for clinicians involved in determining brain death.

The table provides a list of clinical criteria that must be assessed by two separate attending physicians, one of whom must be in a neurological specialty. Blood pressure and body temperature must meet the criteria designated below.

Responsiveness/movement and evidence of brainstem function criteria – place a mark in the column if criteria are met.

Criteria	Details
Date	Date of examination
Time (24-hour clock)	A clinical exam must be performed by one physician; the second physician may attest to the first exam, or may perform a second exam. (Commonwealth of Virginia Code 54.1-2972)
Blood Pressure	SBP should be greater than 90 mm Hg
Body Temperature	Body temperature should be above 32 degrees C (90 F)
Neuroactive drugs absent or worn off	e.g. narcotics, sedatives, barbiturates, atropine, etc.
Responsiveness/movement	
No responsiveness (deeply comatose)	Patient should be deeply comatose with no responsiveness to noxious stimuli (e.g., supraorbital, sternal pressure).
No movement i.e. no spontaneous movement, no response to painful stimuli, no decorticate or decerebrate posturing).	Patient should not demonstrate any movement (spontaneously or to painful stimuli), including seizures or shivering. Neuromuscular blocking agents and sedatives must be worn off. Spinal reflexes, including Babinski, are not indicative of brainstem function and hence may coexist with a diagnosis of brain death.
Evidence of absent brainstem function	
Absent pupillary light reflex	Bilateral absent pupil reflexes. (Note: pupil reflexes may be absent after eye injury, neuromuscular blockers, atropine, mydriatics, scopolamine, opiates.)
Absent corneal, gag, cough reflexes	Cough response best assessed by bronchial suction versus moving endotracheal tube side to side.
Absent oculocephalic reflex (Dolls eyes)	Elicited by rotating the head briskly. A normal response (present reflex) is conjugate deviation of the eyes to the side opposite of the direction in which the head is turned. Consider omitting with known or suspected cervical spine injury.
Absent oculovestibular reflex	With head of bed at 30 degrees – instill 50 ml of iced water into ear canal. A normal response (i.e., present oculovestibular reflex) is tonic deviation of the eyes toward the irrigated ear.

Perform an Apnea test per Respiratory policy # 5.2.13

1. The RCP will ventilate the patient scheduled for apnea testing for 10 minutes on the current ventilator settings, during which time the FIO_2 will be increased to 1.0 (100% oxygen). The RCP will record the patient's vital signs (HR, BP, temperature, respiratory rate, SpO_2 and MAP [if applicable]) on the ventilator flowsheet at the nine minute mark and obtain a baseline arterial blood gas (ABG). The B/P should be greater than 90 mm Hg systolic and temperature $\geq$ 36.5 prior to testing. Vasopressors should be used as needed. The baseline $PaCO_2$ should be within normal limits for the patient prior to starting the apnea test.
2. Preoxygenate patient with 100% oxygen for 10 minutes while still on ventilator.
3. Disconnect patient from the ventilator and deliver 100% oxygen at a rate of 6 -10 Liters/minute.
4. If the patient starts breathing, he does not meet the criteria for brain death and should be placed back on mechanical ventilation at previous settings.
5. If the patient does not begin breathing after 8-10 minutes, an ABG is drawn and place patient back on the ventilator using original vent settings.
6. **If respiratory movements are absent and $PaCO_2$ is $\geq$ 60 mm Hg or 20 mm Hg increase in $PaCO_2$ over a baseline normal $PaCO_2$, the apnea test result is positive** (i.e., it supports the diagnosis of brain death and does not need to be repeated). If $PaCO_2$ is < 60 mm Hg or $PaCO_2$ increase is < 20 mm Hg over baseline normal $PaCO_2$, the result is indeterminate and an additional confirmatory test may be considered.
7. Lab/radiological tests – As appropriate (e.g., CT scan, toxicology tests).

Other confirmatory tests (e.g., EEG, cerebral angiography, brain scans) – Useful in situations where clinical exam is equivocal or a full examination cannot be performed

Assessment – Statement that criteria for brain death determination have been (or have not been) fulfilled

Physician signatures – Two physician signatures should be obtained. Neither physician should be involved with organ transplantation.

Procedure for Percutaneous Dilational Tracheostomy

Personnel needed:

- Nurse (ICU/IMC nurse or Trauma Clinical Practice Specialist)
- Respiratory care technologist
- Pharmacist
- Surgeon and assisstant

Equipment needed:

- Blue Rhino perc trach kit
- Sterile full sheet
- Sterile gloves & gown, hat, mask
- Chlorhexidine prep
- shoulder roll
- suction, oral and endotracheal
- medications for sedation/paralysis (Midazolam, Fentanyl or morphine, Vecuronium)
- fluid (NSS or LR)
- backup tracheostomy tube one size smaller than size to be placed
- Adult bronchoscope: notify Respiratory to obtain
- OPTIONAL: Bovie

Procedure:

1. Inform ICU/IMC nurse, TCPS, Respiratory Therapist, Pharmacist well in advance of time or procedure
2. Obtain kit and all equipment necessary
3. Place shoulder roll (unless contraindicated or C-spine not cleared)
4. Place patient on 100% oxygen and controlled mode on ventilator
5. Administer medications and monitor per Moderate Sedation guidelines
6. Perform procedure (use of bronchoscope recommended)
7. Patient will be observed and monitored after procedure per Moderate Sedation guidelines

In what areas of the hospital will I be cared for?

Patients who have suffered traumatic injuries may be in the Trauma Intensive Care Unit (TICU), Neuroscience Intensive Care Unit (NSICU), Intermediate Care Unit (IMC) or on the surgical floors. You may initially be admitted to the one of the ICUs and progress to the surgical floors as you recover from your injuries.

What will I need to do when I am discharged from the hospital?

Depending on your injuries and your progress in healing, you may go home, need to progress to a skilled nursing facility or require an acute rehab hospital after your stay with us. Your needs will be determined by the Trauma Team. Our social workers and discharge planners will assist in making arrangements for your discharge. You may also need services at home. You will be given specific instructions regarding which consultant physicians to follow-up with after discharge.

Rebuild is a program that focuses on the psychosocial concerns of the trauma patient. Recovering patients participating in the program help each other deal with the long-term consequences of their injuries through support groups held at Inova Fairfax Hospital. Rebuild offers support groups for orthopedic and general trauma, spinal cord injury, traumatic brain injury, and for parents of children with brain injury.

For more information contact:
Rebuild Coordinator at 703-776-2295

What resources are available for patients and families while in the hospital?

Social Workers
We have social workers specially trained in traumatic injury support. They can provide counseling and emotional support and help you and your family adjust to your injury and hospitalization as well as facilitate access to services within the hospital and outside community. They will also assist in coordination of your needs as you leave the hospital. Ask your nurse to assist you in contacting a social worker.

Chaplaincy Services
Chaplaincy staff can facilitate visits from hospital-affiliated clergy or contact clergy from your own religious community. A chapel off the main lobby is open around the clock for visitors and family members. Chaplaincy services can be reached at 703-776-3573.

Financial Services
Financial counselors are available during the week 8 am to 5 pm Monday through Friday. Call 703-776-3573.

Patient Representatives
You may contact a patient representative if you have questions about hospital policies and procedures, need help solving problems or have other special concerns.
Call 703-776-3663.

INOVA® FAIRFAX HOSPITAL

Trauma Services

A Reference Guide

Inova Regional Trauma Center
3300 Gallows Road
Falls Church, VA 22042
703-776-2274

What is the Trauma Team?

The Trauma Team is a group of healthcare professionals specializing in trauma care. Inova Fairfax Hospital is the only Level 1, American College of Surgeons certified Trauma Center in Northern Virginia. As a Level 1 Trauma Center, we provide care for the most severely injured patients. Patients are transported here from the injury scene as well as from other hospitals to receive state of the art care from our trauma experts.

Who are the healthcare professionals on the Trauma Team?

There will be many clinicians involved in your care, providing a team approach coordinated by the attending Trauma Surgeon. We have 24 hour in-house coverage provided by fulltime board certified Trauma Surgeons. As a teaching facility, we also have an active surgical residency program to train future surgeons. Additional important members of the Trauma Team are:

- Consulting Physician Specialists
- Surgical Residents & Medical Students
- Nurse Practitioners
- Clinical Nurse Specialists
- Physiatrist
- Physical Therapists
- Occupational Therapists
- Speech Therapists
- Nutritionists
- Trauma Social Workers
- Pharmacists
- Wound Ostomy Nurses

What do some of these professionals do?

Attending Trauma Surgeons oversee the total care of the patient and provide surgical and critical care services

Surgical Residents are physicians who have finished medical school and are in training

Nurse Practitioners are advanced practice nurses who manage patients in collaboration with the trauma surgeon

Clinical Nurse Specialists are advanced practice nurses who help coordinate your care as a liaison between the professionals involved in your care

Physiatrists are physicians who specialize in rehabilitation medicine

Physical & Occupational Therapists assist you with regaining muscle strength and functional abilities

Speech Therapists work with speech, swallowing and cognitive problems

Physician Consultants will manage your injuries related to their specialty area

Who are my physician consultants?

Orthopedics _____ # _____
Neurosurgery _____ # _____
Spine surgery _____ # _____
Plastic surgery _____ # _____
Rehabilitation _____ # _____
Other _____ # _____

Who is my attending Trauma Surgeon?

Office: 703-776-2274

- ☐ S. Fakhry, MD
- ☐ K. Dwyer, MD
- ☐ C. Michetti, MD
- ☐ D. Reines, MD
- ☐ E. Russo, MD
- ☐ A. Rizzo, MD
- ☐ H. Seoudi, MD
- ☐ _____

Office: 703-359-8640

- ☐ J. Moynihan, MD
- ☐ R. Ahmed, MD
- ☐ K. Edmiston, MD
- ☐ B. Walter, MD
- ☐ R. Brenner, MD

When will I see the attending physician?

There is always a trauma surgeon available 24 hours a day who can answer questions about your plan of care. Our surgeons divide the daily rounds in the Intensive Care Units and on the surgical floors in order to make every attempt to see patients in a timely manner. Each morning our entire team meets to discuss the care of all our patients, so even though the attending trauma surgeon and team members might differ, the plan of care is consistent.

What are my major injuries?

1.

2.

3.

4.

5.

6.

SOCIAL WORKERS

The social worker shares responsibility with the clinical nurse specialists in identifying and arranging appropriate discharge plans for the patient. The social worker is also available for all trauma patients and their families you may identify needing counseling for emotional support, substance abuse or grief/loss issues. A social worker will respond to all Code Blue alerts, 24 hours a day, to facilitate physician-family interactions, perform grief counseling, help with patient identification, and a host of other duties.

Tom Mulligan, LCSW
- ER, Trauma ICU, MSICU
- 2299, Pg 71352

Donna Rotondo, LCSW
- ER, NSICU, Tower, IHVI, IMC
- 3694, Pg 70135

Marcia McBride , LCSW
- Tower building, regular floors
- 1018, Pg 71348

Barbara Zemke, LCSW
- PICU, Pg 71923

Maureen Gill
IFHC, Tower adolescent unit

REBUILD PROGRAM

REBUILD is a program of the Inova Regional Trauma Center that focuses on the psychosocial concerns of the trauma patient. Recovering patients participating in the program help each other deal with the long-term consequences of their injuries. Components of the program include group counseling, education, and socialization. REBUILD offers several support groups for recovering trauma patients and their family members at Inova Fairfax Hospital, including groups for Traumatic Brain Injury, Spinal Cord Injury, Orthopedic Trauma, and for parents of children with TBI. Make referrals to Anna Bradford, LCSW 703-776-2295.

REBUILD Staff: Anna Bradford, LCSW 703-776-2295
Gina North, CRC 703-776-3259
Daniel Stanto, MSW 703-776-6045

MUSCLE INNERVATION: Shoulder & Upper Extremity

MUSCLE	ACTION	ROOTS	NERVE
deep neck	flex, ext, rotate neck	C1-4	cervical
trapezius	elevate shoulder	CN11, C3, 4	spinal acc & roots
diaphragm	inspiration	C3-5	phrenic
serratus anterior	forward shoulder thrust	C5-7	long thoracic
levator scapulae	elecate scapula	C5 (C3-5)	dorsal scapular
rhomboids	adduct & elevate scapula	C4,5	dorsal scapular
supraspinatus	abduct arm (0-90 degrees)	C5 (C4-6)	suprascapular
infraspinatus	rotate arm out	C5 (C6)	suprascapular
latissimus dorsi	adduct arm	C7 (C5-8C0	thoracodorsal
teres major, subscapularis	adduct arm	C5-7	subscapular
deltoid	abduct arm (>90 degrees)	C5 (C6)	axillary
teres minor	lat arm rotation	C4,5	axillary
biceps brachii	flex & supinate forearm	C5 (C6)	musculocutaneous
coracobrachialis	adduct arm/flex forearm	C5-7	musculocutaneous
brachialis	flex forearm	C5,6	musculocutaneous
flexor carpi ulnaris	ulnar flexion of hand	C8 (C7-T1)	ulnar
flexor digitorum profundus (ulnar)	flex distal phalanx of fingers 4,5	C8 (T1)	ulnar
adductor policis	thumb adduction	T1 (C8)	ulnar
abductor digiti minimi	abduction little finger	C8, T1	ulnar
opponens digiti minimi	opposition little finger	C7,8, T1	ulnar
flexor digiti minimi brevis	flexion little finger	T1 (C7-T1)	ulnar
interossei	flex proximal phalanx, ext 2 distal phalanges, abduct or adduct fingers	C8, T1	ulnar
lumbricals 3&4	flex proximal phalanges & extend 2 distal phalanges of fingers 4,5	C8 (C7)	ulnar
pronator teres	forearm pronation	C6,7	median
flexor carpi radialis	radial flexion of hand	C6,7	median
palmaris longus	hand flexion	C7,8, T1	median
flexor digitorum superficialis	flexion middle phalanx finger 2-5, flex hand	C7 (C7-T1)	median
abductor pollicis brevis	abduct thumb metacarpal	T1 (C8)	median
flexor pollicis brevis	flex prox phalanx thumb	T1 (C8)	median
opponens pollicis	opposes thumb metacarp	T1 (C8)	median
lumbricals 1&2	flex proximal phalanx & exted 2 distal phalanges finger 2,3	T1 (C8)	median
flexor digitorum profundus (radial)	flex distal phalanx of fingers 2,3; flex hand	C8 (T1)	anterior interosseous
flexor pollicis longus	flex distal phalanx thumb	C8 (T1)	anterior interosseous
triceps brachii	forearm extension	C7 (C6-8)	radial
brachioradialis	forearm flexion (with thumb pointed up)	C5 (C6)	radial
extensor carpi radialis	radial hand extension	C6 (C7)	radial
supinator	foearm supination	C5 (C6)	radial
extensor digitorum	extension of hand & phalanges of fingers 2-5	C7 (C8)	posterior interosseous
extensor carpi ulnaris	ulnar hand extension	C7 (C8)	posterior interosseous
abductor pollicis longus	abduction thumb metacarpal & radial hand extension	C8 (T1)	posterior interosseous
extensor pollicis brevis & longus	thumb extension & radial hand extension	C6-8	posterior interosseous
extensor indicis proprius	index finger extension & hand extension	C6-8	posterior interosseous

MUSCLE INNERVATION: Hip & Lower Extremity

MUSCLE	ACTION	ROOTS	NERVE
iliopsoas (iliacus + psoas major)	hip flexion	L2,3 (L1-3)	femoral & L1-3
sartorius	hip flex &thigh evert	L2,3	femoral
quadriceps femoris	leg extension	L3,4 (L2)	femoral
pectineus	thigh adduction	L2,3	obturator
adductor longus	thigh adduction	L3 (L2-4)	obturator
adductor brevis	thigh adduction	L2-4	obturator
adductor magnus	thigh adduction	L3,4	obturator
gracilis	thigh adduction	L2-4	obturator
obturator externus	thigh adduction & lateral rotation	L3,4	obturator
gluteus medius/minimus	thigh adduction & medial rotation	L5 (L4-S1)	superior gluteal
tensor fasciae lata	thigh flexion	L4,5	superior gluteal
piriformis	lateral thigh rotation	L5, S1	superior gluteal
gluteus maximus	thigh abduction (patient prone)	S1 (L4-S2)	inferior gluteal
obturator internus	lateral thigh rotation	L5, S1	muscular branches
gemelli	lateral thigh rotation	L4,5, S1	muscular branches
quadratus femoris	lateral thigh rotation	L4,5, S1	muscular branches
biceps femoris (lat hamstring)	leg flex (& assist thigh extens)	S1 (L4-S2)	sciatic (trunk)
semitendinosus (med hamstring)	leg flex (& assist thigh extens)	L5 (L4-S1)	sciatic (trunk)
semimembranosus (med hamstring)	leg flex (& assist thigh extens)	L5 (L4-S1)	sciatic (trunk)
tibialis anterior	foot dorsiflex & supination	L4 (L5)	deep peroneal
extnesor digitorum longus	extension toes 2-5 & foot dorsiflexion	L5 (L4-S1)	deep peroneal
extnesor hallucis longus	great toe ext & foot dorsiflexion	L5 (L4)	deep peroneal
extnesor digitorum brevis	extension great toe & toes 2-4	L5 (L4)	deep peroneal
peroneus longus & brevis	P-flex pronated foot & eversion	L5 (L4-S1)	superficial peroneal
posterior tibialis	P-flex supinated foot & inversion	L5 (S1)	tibial
flexor digitorum longus	P-flex sup foot, flex terminal phalanx toes 2-5	S2,3	tibial
flexor hallucis longus	P-flex sup foot, flex terminal phalanx great toe	S1,2 (L5)	tibial
flexor digitorum brevis	flex mid phalanx toes 2-5	S2,3	tibial
flexor hallucis brevis	flex proximal phalanx great toe	L5, S1,2	tibial
gastrocnemius	knee flexion, ankle P-flex	S1 (S2)	tibial
plantaris	knee flexion, ankle P-flex	S1 (S2)	tibial
soleus	ankle P-flex	S1 (S2)	tibial
abductor hallucis	(cannot test)	S1 (S2)	
perineal & sphincters	voluntary contraction pelvic floor	S2-4	pudendal

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