

# ***ROC HS Data Collection***



***Annual Meeting 2006***



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**11 Base Hospital Programs:**  
**Cambridge Halton Region Kingston**  
**London Niagara Region Ottawa**  
**Peterborough Sarnia Sudbury**  
**Thunder Bay Windsor**

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**Canadian Institutes of Health Research**

# *ROC Enrolment*

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BC	9
Dallas	3
<b>OPALS</b>	<b>30</b>
Seattle	61
Toronto	37

# ***OPALS Enrolment***

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<b>Cambridge</b>	<b>6</b>
<b>Kingston</b>	<b>3</b>
<b>London</b>	<b>4</b>
<b>Ottawa</b>	<b>4</b>
<b>Windsor</b>	<b>13</b>
<b>Toronto Air</b>	<b>9</b>

# ***Changes to HS Protocol***

- **Sub-site investigator – more responsibility**
- **Better notification for hospital staff**
- **Increased patient oversight – sodiums, CTs**
- **Faster reporting of Serious Adverse Events**
- **General Patient Oversight while in  
Hospital**

## *Why did this happen?*

- FDA reservations before approval
- Two SAE's of hypernatremia
- FDA inquisitive
- ROC decision for better monitoring

## ***What do we need to do?***

- **Responsibility: Co-Investigator 1572**
- **Notification: Flashy new info sheet to be carried in study kit, presented to ER Nurse**
- **Paramedic document on ACR**
- **Assure info sheet gets to chart**

## ***What do we need to do?***

- **Increased serum sodium monitoring**  
**q8h sodiums for patients in ICU for first**  
**twenty-four hours**  
**q6h sodiums for patients being treated**  
**with Mannitol or 3% Saline**

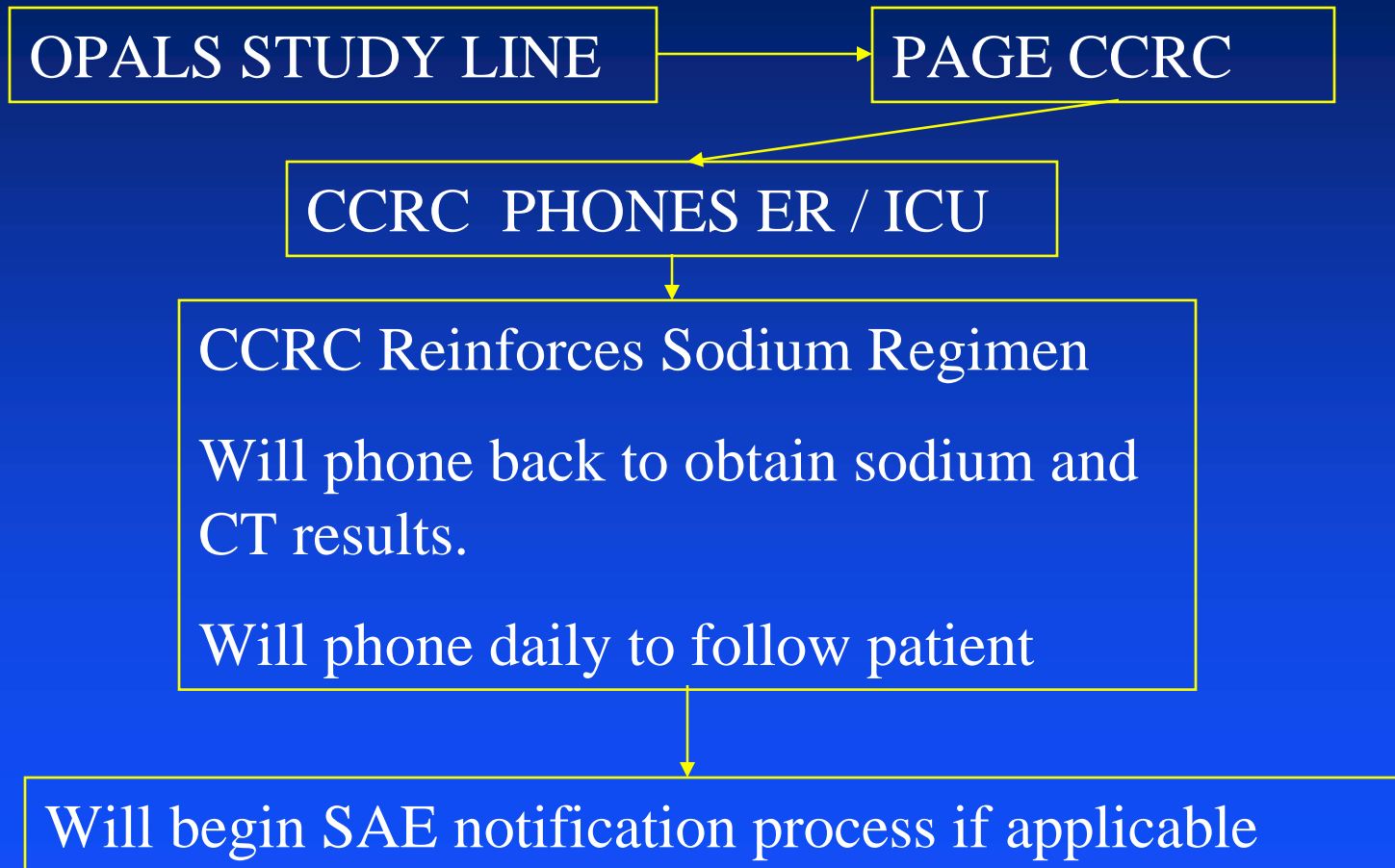
## ***What do we need to do?***

- **Increased monitoring for SAEs or AEs**
  - **Hypernatremia  $\geq 160$**
  - **Seizures due to hypernatremia**
  - **Increased Intracranial Hemorrhage**
  - **Anaphylaxis**

## ***Who is going to do this?***

- **Critical Care Research Team from TOH**
- **Irene Watpool, RN**
- **Tracy McArdle, RN**
- **Mary Jo Lewis, RT**
- **Julia Foxall, RT**

# *Patient Oversight*



# ***Re-Implementation***

- **One site at a time as CTC approves**
  - ▶ **REB approval**
  - ▶ **Co-Investigator signs 1572**
  - ▶ **Flashy new info sheet in study kits**
  - ▶ **CCRC Plan in place**
  - ▶ **MOH approval for EMS Service**
  - ▶ **Improved data collection plan**

# ***Data Collection Plan***

- **Web access for Trauma Centers**
  - ▶ **Electronic Signature**
  - ▶ **On-line material for training**
  - ▶ **Data entry quiz**

# ***Data Collection Plan***

- **Review of Timelines**
- **Review of Forms**
- **Liaise weekly with Ottawa ROC**

# ***Data Collection Plan***

- **Review of Time Lines**
- **Enrolment 3 days**

**Ottawa will continue to enroll**

**Jane will email you the ROC ID #**

# ***Data Collection Plan***

- **Review of timelines – due in 2 weeks**
- **Pre Hospital Times**
- **Pre Hospital Form**
- **ED form**
- **Resuscitation**
- **Care Guidelines**

# ***Data Collection Plan***

- **Review of Timelines – 2 weeks post d/c or 2 weeks post 28 days**
- **Neurological Function Form**
- **ICU Form**
- **Hospitalization Form**
- **Patient Family Consent**

## ***Data Collection Plan***

- **Review of time lines – within 1 month**
- **First follow-up - Shock at ~ 28 days post injury**
- **First follow-up – TBI at 1 month post discharge**

# ***Data Collection Plan***

- **Review of Timelines**
- **TBI interview**
  - ▶ **At or near discharge**
  - ▶ **At one month “if”**
  - ▶ **At six months post date of injury**

# Web Entry



Hype

## General Material

- [References](#)
  - [Web Instructions](#)
  - [Schedule of Forms](#)
- [Form Worksheets](#)

- For data entry, enter a new episode or choose an episode for viewing

### Enter a new episode:

*Click the button below to enter a new episode  
(**note:** you must know the date and time of the episode)*

New Episode

### Enter data for an existing episode:

*To find the episode in the box below, begin typing the HS ID.  
Then click the button to display the episode details.*

OTT-

Find Episode

# Episode List

HS ID	Date of Episode	Time	Site-linking ID	Cohort	Patient Enrollment	Pre-Hospital Time Record	Pre-Hospital	ED Admit	Resuscitation/Injury Characteristics	Intensive Care Unit	Neurologic Function/Management	Care Guidelines	Hospitalization	TBI Outcome Interview	Alert CTC	Patient/Family Consent	First Follow-up
<a href="#">OTT-00161HS-9</a>	25-10-2006	22:54	05-407089	Shock	C	C	C	C	E	?	-	R	E	-	C C	R	R
<a href="#">OTT-00160HS-0</a>	25-10-2006	18:42	03-9167145	TBI	C	C	C	C R	E	?	R	R	?*	?*	?	R	-
<a href="#">OTT-00147HS-3</a>	16-10-2006	23:18	06-11370770	TBI	C	C	C	C	C	C	C	C	C	-	?	C	-
<a href="#">OTT-00142HS-2</a>	11-10-2006	18:53	19-9020350	TBI	C	C	C	R	E	?	R	?*	?*	?*	?	R	?*
<a href="#">OTT-00141HS-4</a>	11-10-2006	18:47	12-16091384	TBI	C	C	C	C	C	-	C	-	-	-	?	C	-
<a href="#">OTT-00125HS-2</a>	03-10-2006	15:07	19-9018611	Shock	C	C	C	R	E	?	-	?*	?*	-	?	R	?*
<a href="#">OTT-00124HS-4</a>	29-09-2006	09:02:05	05-400493	TBI	C	C	C	C	C	C	C	C	C	-	?	C	-
<a href="#">OTT-00123HS-6</a>	28-09-2006	18:34	19-9017578	Shock	C	C	C	R	E	?	-	?*	?*	-	?	R	?*
<a href="#">OTT-00119HS-8</a>	28-09-2006	12:50	19-9017493	Shock	C	C	C	R	E	?	-	?*	?*	-	?	R	?*
<a href="#">OTT-00102HS-3</a>	19-09-2006	00:49	12-16083113	Both	C	C	C	C	C	E	E	C	E	-	?	C	-
<a href="#">OTT-00100HS-7</a>	13-09-2006	22:28	12-16081288	Shock	C	C	C	C	C	C	-	C	C	-	?	C	C

# Episode Summary

Episode summary information for HS ID: OTT-00142HS-2

Episode Type	Forms	Status	Reason	Active Date	Printable Page	Episode creation
1) Enrollment						10-16-200
	Patient Enrollment	Current (C)	Enrollment		Confirmation Page	
	Pre-Hospital Time Record	Current (C)	Enrollment		Confirmation Page	
	Pre-Hospital	Current (C)	Enrollment		Confirmation Page	
	ED Admit	Empty (R)	Enrollment		Custom WorkSheet	
	Resuscitation/Injury Characteristics	Current (E)	Enrollment		Confirmation Page	
	Intensive Care Unit	Empty (?)	Admitted to ICU		Custom WorkSheet	
	Neurologic Function/Management	Empty (R)	Enrollment		Custom WorkSheet	
	Care Guidelines	Empty(?*)	May be needed in future		WorkSheet	
	Hospitalization	Empty(?*)	May be needed in future		WorkSheet	
	TBI Outcome Interview	Empty(?*)	May be needed in future		WorkSheet	
	Alert CTC	Empty (?)	Enrollment		Custom WorkSheet	
	Patient/Family Consent	Empty (R)	Enrollment		Custom WorkSheet	

# Patient Enrollment Form

## 1. EMS Agency that provided study intervention:

Agency Name & Number	Vehicle name
<input type="text"/>	<input type="text"/>

2. Study fluid bag #:

## 3. Was more than one victim treated with study fluid during this incident?

- Yes → Number of victims:
- No

## 4. Inclusion criteria

Yes	No	
<input type="radio"/>	<input type="radio"/>	Blunt or penetrating trauma → If "No", complete <b>Alert CTC</b> form
<input type="radio"/>	<input type="radio"/>	Pre-hospital SBP $\leq$ 70 mmHg
<input type="radio"/>	<input type="radio"/>	Pre-hospital SBP 71-90 mmHg AND HR $\geq$ 108
<input type="radio"/>	<input type="radio"/>	Pre-hospital GCS $\leq$ 8 (without paralytics)

} If "No" to all 3 → complete **Alert CTC** form

- Intended to enroll in hypotensive cohort
- Intended to enroll in TBI cohort

## 5. Exclusion criteria: (If "Yes" to any exclusion criteria, complete **Alert CTC** form)

- Yes No
- Known or suspected pregnancy
- Age  $\leq$  14 years or weight  $<$  50 kg if age unknown
- Ongoing pre-hospital Cardiopulmonary Resuscitation (CPR)
- Admin of  $>$  2 L crystalloid or any colloid or blood product
- Severe hypothermia (suspected T  $<$  28 C)
- Drowning or asphyxia due to hanging
- Burns TBSA  $>$  20%
- Isolated penetrating injury to the head
- Inability to obtain pre-hospital intravenous access
- Time of call received at dispatch to study intervention  $>$  4 hours
- Known prisoner

# Pre Hospital Time Record

Item	Event Order 1-6 0=NA	Time of Event						No Doc Time	Computer to generate (you may adjust aligned time)									
		Watch			Dispatch				Aligned Time Adj			Time Interval			Cumulative Time			
		hh	mm	ss	hh	mm	ss		hh	mm	ss	hh	mm	ss	hh	mm	ss	
1st 911 call received at dispatch	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Enrolling vehicle dispatch time	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Enrolling vehicle w/study fluid arrived	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Study fluid hung	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Resus. terminated due to death	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
1st ED arrival	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

**Please remember to send Dispatch Record**

# Pre-Hospital Form

## 1. Vital signs:

Initial SBP:  mmHg  Not Detectable

Initial RR:  breaths/min  NA/NR

Initial GCS (prior to intubation and/or paralytics): E  V  M

Qualifying GCS (without paralytics): E  V  M

Qualifying SBP prior to study fluid:  mmHg  Not Detectable

\* If qualifying SBP 71 - 90, enter qualifying HR  bpm

*Highest* Best field SBP after study fluid:  mmHg  Not Detectable  NA/NR

Highest field HR:  bpm

Lowest field SBP:  mmHg  Not Detectable

***If BP documented as CNO check Not Detectable***

# Pre Hospital Form

## 2. Procedures:

Yes No

- Advanced airway attempted:  
If Yes → complete box below

Yes	No	Failed	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	LMA
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Combitube
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	ET Tube
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Cricothyrotomy

*If unsure of pre hosp procedures  
contact BHP*

- Needle thoracostomy
- Other, specify:  (30)

## 3. Medication given:

- No → **Skip to item 4**

Yes → Yes No

- Paralytics
- Narcotics
- Benzodiazepines
- Mannitol
- Lidocaine
- Etomidate
- Other, specify:  (30)

# Pre Hospital Form

## 4. Fluids given:

Study fluid:  (ml) → If < 250 ml, complete the **Alert CTC** form

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Normal Saline:  (ml)  
Lactated Ringers:  (ml)  
Plasmalyte:  (ml)

} Greater than 2 L given before study fluid?  
 Yes → complete the **Alert CTC** form  
 No

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RBC's:  (ml) → Given before study fluid?  
 Yes → complete the **Alert CTC** form  
 No

## 5. Transportation:

Agency name:

Transport vehicle name:  → Transport mode:  Ground  Air

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Agency name:

Transport vehicle name:  → Transport mode:  Ground  Air

# Pre Hospital Form

## 6. Demographics:

a. Age (estimated from PCR)

### b. Race/Ethnicity (check all that apply)

- Hispanic or Latino
- White
- African-American/Black
- American-Indian/Alaska Native
- Asian
- Native Hawaiian/Pacific Islander
- Other
- Unknown/not noted

*If not documented - unknown*

### c. Gender (check one only)

- Male
- Female

# Pre Hospital Form

## 7. Did any adverse events occur during pre-hospital care?

- No
- Yes → Explain:  (30) → Complete the **Alert CTC** form.

## 8. Disposition: (check one only)

- Died at scene
- Died en route
- Admitted to ED → Complete **ED Admit** form
- } If death in Pre-hospital setting, complete item 9

## 9. Cause of death:

Primary (check one only)	Secondary (check one only)
<input type="radio"/> Hypovolemic shock	<input type="radio"/> Hypovolemic shock
<input type="radio"/> Hypoxia	<input type="radio"/> Hypoxia
<input type="radio"/> Cardiac dysfunction	<input type="radio"/> Cardiac dysfunction
<input type="radio"/> TBI	<input type="radio"/> TBI
<input type="radio"/> Anoxic brain injury	<input type="radio"/> Anoxic brain injury
<input type="radio"/> Unknown	<input type="radio"/> Unknown
<input type="radio"/> Other, specify below: <input type="text"/> (30)	<input type="radio"/> Other, specify below: <input type="text"/> (30)

*Both!*

# ED Admit Form

## 1. ED admit information:

ED admittance date:  /  /  (mm/dd/yyyy) ED admit time:  :  (hh:mm)

ED name:

ED City:

## 2. Demographics:

a. Birth year:  (yyyy)

b. Race: (check all that apply)

- American-Indian/Alaska Native
- Asian
- Black/African-American
- Native Hawaiian/Pacific Islander
- White
- Unknown/not noted

c. Ethnicity:

- Hispanic or Latino
- Not Hispanic or Latino
- Unknown/not noted

# Ed Admit Form

## 3. Vital signs within 4 hours of ED admit:

First ED GCS: E:  → R size (mm):  → Reactive?  Yes  No

L size (mm):  → Reactive?  Yes  No

V:  → Intubated?  Yes  No

M:  → Chemically paralyzed?  Yes  No

First ED BP:  /  mmHg      First ED heart rate:  bpm

Lowest ED BP:  /  mmHg      Highest ED heart rate:  bpm

First Temperature:   C  F  NA/NR

- ↳ Source:
- Rectal
  - Axillary
  - Oral
  - Tympanic
  - Core

# ED Admit Form

## 4. Labs within 4 hours of ED admit:

### Arterial Blood Gases?

- No  
 Yes →

ABG	% FIO <sub>2</sub> (decimal)	pH (pH units)	pCO <sub>2</sub> (mmHg)	pO <sub>2</sub> (mmHg)	SaO <sub>2</sub> (%)	Base deficit	Time (hh:mm, 24hr clock)
First:	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/> : <input type="text"/>
Worst: (based on PH)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/> : <input type="text"/>

### Lactate obtained?

- No  
 Yes → Indicate unit of measure:  mEq/L  mmol/L  mg/dL  
 First:  Time:  :  (hh:mm)

### Hemoglobin obtained?

- No  
 Yes → Indicate unit of measure:  mg/dL  g/dL  g/L  
 First Hgb:  Time:  :  (hh:mm)  
 Lowest Hgb:  Time:  :  (hh:mm)

# pH and Base Deficit

## 4. Labs within 4 hours of ED admit:

### Arterial Blood Gases?

- No  
 Yes →

ABG	% FiO <sub>2</sub> (decimal)	pH (pH units)	pCO <sub>2</sub> (mmHg)	pO <sub>2</sub> (mmHg)	SaO <sub>2</sub> (%)	Base deficit	Time (hh:mm, 24hr clock)
First:	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/> : <input type="text"/>
Worst: (based on PH)	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/> : <input type="text"/>

*If only one ABG done just enter first*

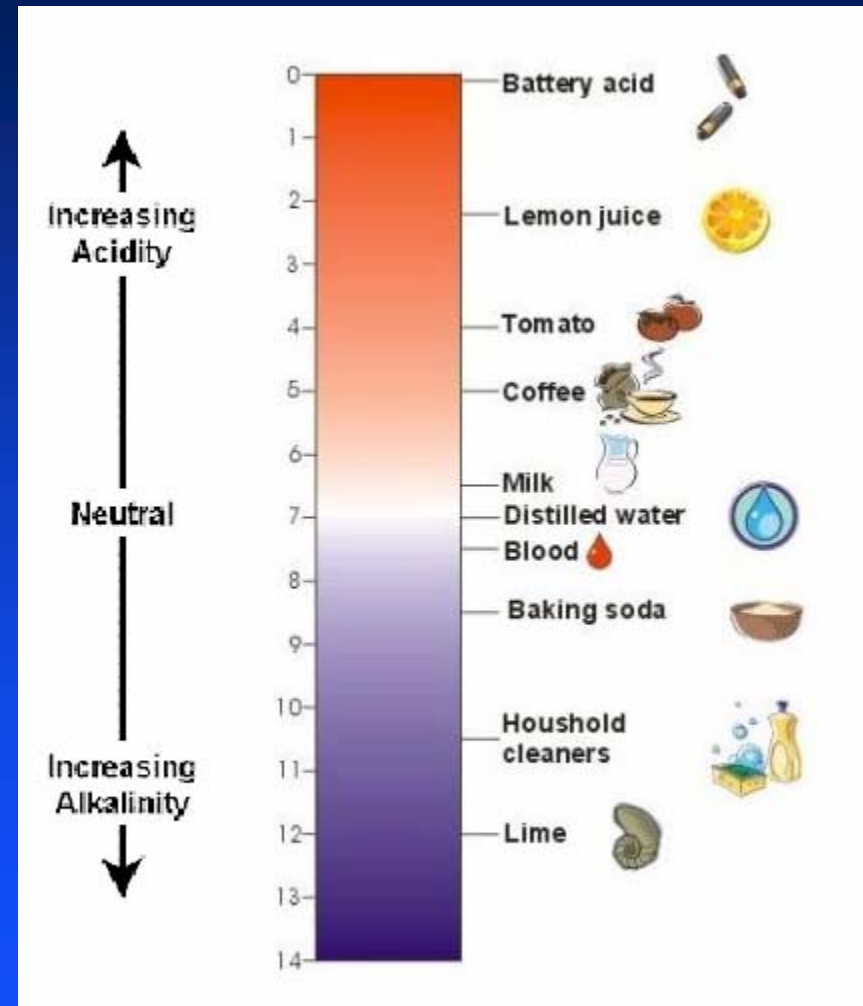
Continuing from page 2 - Item 6

### Worst Base Deficit (measured in mmol/L or mEq/L, which are equivalent)

Hours	Date/Time		Value	NA/NR
	From	To		
0-12	Date: <input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
	Time: <input type="text"/>	<input type="text"/>		
12-24	Date: <input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
	Time: <input type="text"/>	<input type="text"/>		

# pH and Base Deficit

- pH: measure of acidity
  - pH = 7 neutral  
[H<sup>+</sup>] = [OH<sup>-</sup>]
  - normal blood  
pH 7.35 – 7.45



# Base deficit (BD)

- **Definition:** Base deficit is the amount of base needed to restore a normal blood pH
  - Normal base deficit -2 to +2 mEq/L
  - Base deficit = - (Base excess)

Continuing from page 2 - Item 6

Worst Base Deficit (measured in mmol/L or mEq/L, which are equivalent)

Hours	Date/Time		Value	NA/NR
	From	To		
0-12	Date: <input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
	Time: <input type="text"/>	<input type="text"/>		
12-24	Date: <input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
	Time: <input type="text"/>	<input type="text"/>		

# *pH and Base Deficit*

- pH = 7.16 or 7.52 ?
- Metabolic acidosis or alkalosis?
- Shock → tissue hypoxia → anaerobic metabolism → metabolic acidosis

# Pop Quiz

- Which of the following base deficits is the worst?
  - a) + 3.6 mEq/L
  - b) - 3.6 mEq/L
  - c) + 4.4 mEq/L
  - d) - 4.2 mEq/L
  
- Which of the following base excesses would you enter as the worst base deficit?
  - a) + 3.6 mEq/L
  - b) - 3.6 mEq/L
  - c) + 4.4 mEq/L
  - d) - 4.2 mEq/L

# ED Admit Form

## Coag Panel obtained?

- No  
 Yes → Complete the following:

### NA/NR Done

- First INR:   
  First PT:  seconds  
  First PTT:  seconds

Indicate units of measure, then enter value for the following

- First Platelet :   $\times 10^3/\mu\text{L}$    $\times 10^9/\text{L}$    $\times 10^3/\text{ml}^3$    
  First Fibrinogen:  mg/dL  g/L

5. Did the patient have any ventricular arrhythmias requiring intervention (i.e., shock and/or medication)?

- Yes  
 No

# ED Admit Sheet

## 6. Intubation:

- Not intubated
- Arrived intubated
- Intubated in ED
- Surgical airway in ED

## 7. Angio suite for hemorrhage control?

- No
- Yes → Embolization?  Yes  No

## 8. Were any adverse events uncovered during the ED Admit (incomplete study fluid administration, inclusion criteria not met, etc)?

- No
- Yes → Explain:  (30) → Complete the **Alert CTC** form.

# ED Admit Sheet

## 9. Disposition:

- Operating Room
- ICU
- Intermediate Care Unit
- Regular ward/telemetry
- Discharged
- Left AMA
- Death in ED
- Transfer to another ED → Complete another **ED Admit** form

- Air
  - Ground
- } Arrival time  :  (24hr clock hh:mm)

*Need 2<sup>nd</sup> form*

## 10. Date and time of ED disposition (or death):

Date:  /  /  (mm/dd/yyyy)

Time:  :  (24hr clock hh:mm)

If death in ED complete items **11 - 12**, otherwise STOP.

# ED Admit Sheet

11. For patients who died in the ED, please indicate cause of death here:

Primary (check one only)	Secondary (check one only)
<input type="radio"/> Hypovolemic shock	<input type="radio"/> Hypovolemic shock
<input type="radio"/> Hypoxia	<input type="radio"/> Hypoxia
<input type="radio"/> Cardiac dysfunction	<input type="radio"/> Cardiac dysfunction
<input type="radio"/> TBI	<input type="radio"/> TBI
<input type="radio"/> Anoxic brain injury	<input type="radio"/> Anoxic brain injury
<input type="radio"/> Unknown	<input type="radio"/> Unknown
<input type="radio"/> Other, specify below: _____ (30)	<input type="radio"/> Other, specify below: _____ (30)

12. For patients who died in the ED, please indicate if any ED procedures were performed here:

- No  
 Yes → Complete box below

Procedure	Procedure numeric code	Date (mm/dd/yyyy)
1: <input type="checkbox"/> → If Other, describe: _____ (30)		<input type="text"/> / <input type="text"/> / <input type="text"/>
2: <input type="checkbox"/> → If Other, describe: _____ (30)		<input type="text"/> / <input type="text"/> / <input type="text"/>
3: <input type="checkbox"/> → If Other, describe: _____ (30)		<input type="text"/> / <input type="text"/> / <input type="text"/>
4: <input type="checkbox"/> → If Other, describe: _____ (30)		<input type="text"/> / <input type="text"/> / <input type="text"/>
5: <input type="checkbox"/> → If Other, describe: _____ (30)		<input type="text"/> / <input type="text"/> / <input type="text"/>

**ED Procedures Key**

1. Thoracotomy
2. PA Catheter
3. CVP Catheter
4. Other

# How to add 2<sup>nd</sup> ED Form

HS ID	Date of Episode	Time	Site-linking ID	Cohort	Patient Enrollment	Pre-Hospital Time Record	Pre-Hospital	ED Admit	Resuscitation/Injury Characteristics	Intensive Care Unit	Neurologic Function/Management	Care Guidelines	Hospitalization	TBI Outcome Interview	Alert CTC	Patient/Family Consent	First Follow-up	
<a href="#">OTT-00161HS-9</a>	25-10-2006	22:54	05-407089	Shock	C	C	C	C	E	?	-	R	E	-	C	C	R	R
<a href="#">OTT-00160HS-0</a>	25-10-2006	18:42	03-9167145	TBI	C	C	C	C R	E	?	R	R	?*	?*	?	R	-	
<a href="#">OTT-00147HS-3</a>	16-10-2006	23:18	06-11370770	TBI	C	C	C	C	C	C	C	C	C	-	?	C	-	
<a href="#">OTT-00142HS-2</a>	11-10-2006	18:53	19-9020350	TBI	C	C	C	R	E	?	R	?*	?*	?*	?	R	?*	
<a href="#">OTT-00141HS-4</a>	11-10-2006	18:47	12-16091384	TBI	C	C	C	C	C	-	C	-	-	-	?	C	-	
<a href="#">OTT-00125HS-2</a>	03-10-2006	15:07	19-9018611	Shock	C	C	C	R	E	?	-	?*	?*	-	?	R	?*	
<a href="#">OTT-00124HS-4</a>	29-09-2006	09:02:05	05-400493	TBI	C	C	C	C	C	C	C	C	C	-	?	C	-	
<a href="#">OTT-00123HS-6</a>	28-09-2006	18:34	19-9017578	Shock	C	C	C	R	E	?	-	?*	?*	-	?	R	?*	
<a href="#">OTT-00119HS-8</a>	28-09-2006	12:50	19-9017493	Shock	C	C	C	R	E	?	-	?*	?*	-	?	R	?*	
<a href="#">OTT-00102HS-3</a>	19-09-2006	00:49	12-16083113	Both	C	C	C	C	C	E	E	C	E	-	?	C	-	
<a href="#">OTT-00100HS-7</a>	13-09-2006	22:28	12-16081288	Shock	C	C	C	C	C	C	-	C	C	-	?	C	C	

# How to add 2<sup>nd</sup> ED Sheet

## Episode summary information for HS ID: OTT-00160HS-0

Episode Type	Forms	Status	Reason	Act Da
1) Enrollment				
	Patient Enrollment	<b>Current (C)</b>	Enrollment	
	Pre-Hospital Time Record	<b>Current (C)</b>	Enrollment	
	Pre-Hospital	<b>Current (C)</b>	Enrollment	
	ED Admit	<b>Current (C)</b>	Enrollment	
	ED Admit	<b>Empty (R)</b>	Transferred to another ED	
	Resuscitation/Injury Characteristics	<b>Current (E)</b>	Enrollment	
	Intensive Care Unit	<b>Empty (?)</b>	Admitted to ICU	
	Neurologic Function/Management	<b>Empty (R)</b>	Enrollment	
	Care Guidelines	<b>Empty (R)</b>	Admitted to ICU/OR/ Intermediate ...	

# Resuscitation Form

## 1. Injury type: (check all that apply)

Blunt (check all that apply)

Fall  MVC-motorcyclist  MVC-unknown

Machinery  MVC-cyclist  Struck by/against (assault)

MVC-occupant  MVC-pedestrian  Other, describe: \_\_\_\_\_ (30)

Penetrating (check all that apply)

GSW  Stab(knife)

Impalement  Other, describe: \_\_\_\_\_ (30)

## 2. Head CT done within 7 days of episode date:

CT	Date	Time	Marshall Head CT Category	NA/NR	Evidence of increased intracranial bleeding?	
					Yes*	No
	(mm/dd/yyyy)	(hh:mm)	NA/NR (enter 1-6 code below; if 6, please specify)			
1:	<input type="text"/> / <input type="text"/> / <input type="text"/>	<input type="text"/> : <input type="text"/>	<input type="checkbox"/> <input type="checkbox"/> If Other, specify: _____ (30)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2:	<input type="text"/> / <input type="text"/> / <input type="text"/>	<input type="text"/> : <input type="text"/>	<input type="checkbox"/> <input type="checkbox"/> If Other, specify: _____ (30)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3:	<input type="text"/> / <input type="text"/> / <input type="text"/>	<input type="text"/> : <input type="text"/>	<input type="checkbox"/> <input type="checkbox"/> If Other, specify: _____ (30)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

\* If "Yes" to evidence of increased intracranial bleeding, please complete **Alert CTC** form

### Marshall Head CT Code:

1. Diffuse Injury I (no visible intracranial pathology seen on CT scan)
2. Diffuse Injury II (cisterns are present, with midline shift 0-5 mm, and/or there is no high or mixed density lesion > 25 cc)
3. Diffuse Injury III (cisterns compressed or absent with midline shift 0-5 mm, no high mixed density lesion > 25 cc)
4. Diffuse Injury IV (midline shift > 5mm, no high or mixed density lesion > 25 cc)
5. Mass Lesion (any lesion surgically evacuated high or mixed density lesion > 25 cc not surgically evacuated)
6. Other

**Please fax CT reports ASAP!**

# Resuscitation Form

3. **Anatomic injuries:** (List 3 worst injuries in each anatomic region; if no injury to an anatomic region, enter "0")

Injury	Abbreviated Injury Score (7-digit score)					
Head/neck:	1) [ ] - [ ]	2) [ ] - [ ]	3) [ ] - [ ]			
Face:	1) [ ] - [ ]	2) [ ] - [ ]	3) [ ] - [ ]			
Chest:	1) [ ] - [ ]	2) [ ] - [ ]	3) [ ] - [ ]			
Abdomen:	1) [ ] - [ ]	2) [ ] - [ ]	3) [ ] - [ ]			
Extremity:	1) [ ] - [ ]	2) [ ] - [ ]	3) [ ] - [ ]			
External:	1) [ ] - [ ]	2) [ ] - [ ]	3) [ ] - [ ]			

Was AIS data based on autopsy results?  Yes  No

## 4. Injury Severity Scores:

[ ]	New Injury Severity Score (NISS)
[ ]	Injury Severity Score (ISS)
[ ]	Revised Trauma Score (RTS)
[ ]	TRISS Prob Outcome (TRISS)

**Please send complete list of injuries!**

# Resuscitation Form

## 5. Fluids (based on time call received at dispatch):

	0-12 hours		12-24 hours	
	From	To	From	To
Date (mm/dd/yyyy):	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Time (hh:mm):	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<b>Fluids</b>	<b>Pre-hospital</b> <i>(from Pre-hospital form)</i>	<b>ED/hospital</b>		
Lactated ringers (ml):	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Normal saline (ml):	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Plasmalyte (ml):	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Other crystalloid (ml):		<input type="text"/>	<input type="text"/>	<input type="text"/>
Other colloid (ml):		<input type="text"/>	<input type="text"/>	<input type="text"/>
3% saline (ml):		<input type="text"/>	<input type="text"/>	<input type="text"/>
Allogeneic RBC's (ml):	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
FFP (ml):		<input type="text"/>	<input type="text"/>	<input type="text"/>
Platelets (ml):		<input type="text"/>	<input type="text"/>	<input type="text"/>
Cryoprecipitate (ml):		<input type="text"/>	<input type="text"/>	<input type="text"/>
Autologous blood transfusion (ml):		<input type="text"/>	<input type="text"/>	<input type="text"/>
Intraoperative EBL (ml):		<input type="text"/>	<input type="text"/>	<input type="text"/>

# 1 unit of RBC = ? ml

Fluid (1unit)	ml
Allogeneic RBC	350
FFP	250
Platelets	50
Cryoprecipitate	10
Autologous RBC	500



**Units & packaging  
can vary among  
hospitals - Please  
contact your hospital  
pharmacy!**

# Fluids - Crystalloids vs. Colloids

## Crystalloid

- A crystalloid can diffuse through capillary walls
- Crystalloids contain water/electrolytes or other water soluble molecules
- Crsytalloids: NS, RL, Plasmalyte, D5W

## Colloid

- A colloid is relatively impermeable
- Colloids contain larger insoluble molecules - proteins, complex sugars & starch molecules
- Colloids : Albumin, Dextran, Hetastarch, and Pentaspan

# Resuscitation Form

## 6. Labs (based on time of ED admit):

a. Labs (indicate units of measure then enter value OR check NA/NR for not available/not recorded)

Highest Lactate units:  mEq/L  mmol/L  mg/dL

Hours	Date/Time		Value	NA/NR
	From	To		
0-12	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
	<input type="text"/>	<input type="text"/>		
12-24	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
	<input type="text"/>	<input type="text"/>		

# Resuscitation Form

**Worst Base Deficit** (measured in mmol/L or mEq/L, which are equivalent)

Hours	Date/Time		Value	NA/NR
	From	To		
0-12	Date:	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
	Time:	<input type="text"/>	<input type="text"/>	
12-24	Date:	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
	Time:	<input type="text"/>	<input type="text"/>	

- b. **Electrolytes** (Na, Cl and K+ are measured in either mEq/L or mmol/L, which are equivalent; for not available/not recorded check NA/NR )

First:	Na		Cl		K+	
	<input type="text"/>		<input type="text"/>		<input type="text"/>	
Highest:	Na		Cl		K+	
Hours	Value	NA/NR	Value	NA/NR	Value	NA/NR
0-4	<input type="text"/>	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>
4-12	<input type="text"/>	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>
12-24	<input type="text"/>	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>
24-36	<input type="text"/>	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>
36-48	<input type="text"/>	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>	<input type="text"/>	<input type="checkbox"/>

*Will be changing!*

# Resuscitation Form

7. **Osmolality** (enter 1<sup>st</sup>/ED value, then enter highest osmolality for subsequent time periods)  
(Osmolality is measured in either mosm/kg, which are equivalent; for not available/not recorded check NA/NR.  
The 1<sup>st</sup>/ED value should be the first value obtained in the ED, if done. Day 1 equals the date of injury plus one calendar date, etc)

Highest Osm		
Day	Value	NA/NR
1 <sup>st</sup> /ED	<input type="text"/>	<input type="checkbox"/>
Day 1	<input type="text"/>	<input type="checkbox"/>
Day 2	<input type="text"/>	<input type="checkbox"/>
Day 3	<input type="text"/>	<input type="checkbox"/>
Day 4	<input type="text"/>	<input type="checkbox"/>

# ICU Form

## 1. Initial ICU admit

Date:  /  /  (mm/dd/yyyy) Time:  :  (hh:mm)

## 2. Cardiovascular failure (day 0-28):

Day	Date	Heart Rate	MAP	CVP		PRESSORS		Discharged	Readmitted
0	<input type="text"/>	↓	↓	↓	↓	↓		<input type="checkbox"/>	<input type="checkbox"/>
1	<input type="text"/>	(bpm)	(mmHg)	(mmHg)	NA/NR	Yes	No	<input type="checkbox"/>	<input type="checkbox"/>
2	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>
9	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>
10	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>
11	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>
12	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>
13	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>

Expired =  
Discharged

All values to come from ~ 0800

# ICU Form

Date (dd/mm/yyyy)  
29-09-2006

Time call received at dispatch (24hr clock)

09:02:05 (hh:mm:ss)  estimated  From dispatch

HS ID  
OTT-00124HS-4

Site-linking ID (optional)  
05-400493

Incident Number (optional)

## 1. Initial ICU admit:

Date: [ 29-09-2006 ] (dd/mm/yyyy) Time: [ 17:25 ] (hh:mm)

## 2. Cardiovascular failure (day 0-28):

Day	Date (dd/mm/yyyy)	Heart Rate	MAP	CVP		PRESSORS	Discharged	Readmitted
0	[ 29-09-2006 ]	↓	↓	↓			<input type="checkbox"/>	<input type="checkbox"/>
1	[ 30-09-2006 ]	(bpm)	(mmHg)	(mmHg)	NA/NR	Yes No	<input type="checkbox"/>	<input type="checkbox"/>
2	[ 01-10-2006 ]	[ 91 ]	[ 77 ]	[ ]	<input checked="" type="checkbox"/>	<input checked="" type="radio"/> <input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	[ 02-10-2006 ]	[ ]	[ ]	[ ]	<input type="checkbox"/>	<input type="radio"/> <input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	[ 03-10-2006 ]	[ 95 ]	[ 65 ]	[ ]	<input checked="" type="checkbox"/>	<input checked="" type="radio"/> <input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>

# ICU Form

Date (dd/mm/yyyy)  
13-09-2006

Time call received at dispatch (24hr clock)

22:28 (hh:mm:ss)  estimated  From dispatch

HS ID  
OTT-00100HS-7

Site-linking ID (optional)  
12-16081288

Incident Number (optional)

**1. Initial ICU admit:**

Date: [ 14-09-2006 ] (dd/mm/yyyy) Time: [ 15:55 ] (hh:mm)

**2. Cardiovascular failure (day 0-28):**

Day	Date (dd/mm/yyyy)	Heart Rate	MAP	CVP	PRESSORS	Discharged	Readmitted	
0	[ 13-09-2006 ]	↓	↓	↓		<input type="checkbox"/>	<input type="checkbox"/>	
1	[ 14-09-2006 ]	(bpm)	(mmHg)	(mmHg)	NA/NR	Yes No	<input type="checkbox"/>	<input type="checkbox"/>
2	[ 15-09-2006 ]	[ ]	[ ]	[ ]	<input type="checkbox"/>	<input type="radio"/> <input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	[ 16-09-2006 ]	[ 112 ]	[ 97 ]	[ ]	<input checked="" type="checkbox"/>	<input type="radio"/> <input checked="" type="radio"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4	[ 17-09-2006 ]	[ ]	[ ]	[ ]	<input type="checkbox"/>	<input type="radio"/> <input type="radio"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Patient in PACU while awaiting bed in ICU**

# ICU Form

3.  Never ventilated → Skip to item 5

Initial intubation → Date:  /  /  (mm/dd/yyyy) Time:  :  (hh:mm)

Day	Date	Ventilated		PaO <sub>2</sub>	% FiO <sub>2</sub>	PEEP	CXR: bilateral infiltrates?		ALI	ARDS	Vt? If Yes to ALI/ARDS	Exubated	Reintubated
		Yes	No	mmHg	(decimal)	(mmHg)	Yes	No	Yes	No	Yes	No	<input type="checkbox"/>
0													
1													
2		<input type="radio"/>	<input type="radio"/>				<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3		<input type="radio"/>	<input type="radio"/>				<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4		<input type="radio"/>	<input type="radio"/>				<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5		<input type="radio"/>	<input type="radio"/>				<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6		<input type="radio"/>	<input type="radio"/>				<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7		<input type="radio"/>	<input type="radio"/>				<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8		<input type="radio"/>	<input type="radio"/>				<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9		<input type="radio"/>	<input type="radio"/>				<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10		<input type="radio"/>	<input type="radio"/>				<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11		<input type="radio"/>	<input type="radio"/>				<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12		<input type="radio"/>	<input type="radio"/>				<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13		<input type="radio"/>	<input type="radio"/>				<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14		<input type="radio"/>	<input type="radio"/>				<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15		<input type="radio"/>	<input type="radio"/>				<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

From ABG Calculate PF Ratio

Chest X-ray

MoO

P 36,37

All values to come from ~ 0800

# ***Acute Lung Injury***

- **ALI:**
- **(a) Hypoxia with a PaO<sub>2</sub>/FiO<sub>2</sub> ratio >200, ≤ 300 *and***
- **(b) bilateral infiltrates on chest X-ray *and***
- **(c) no clinical evidence of increased left atrial pressure or a pulmonary artery pressure of <18mmHg\***

***If ALI or ARDS....send x-ray on CD***

# ***Acute Respiratory Distress***

- **ARDS:**
- (a) hypoxia with a PaO<sub>2</sub>/FiO<sub>2</sub> ratio  $\leq 200$  *and*
- (b) bilateral infiltrates on chest X-ray *and*
- (c) no clinical evidence of increased left atrial pressure or a pulmonary artery pressure of  $< 18\text{mmHg}^*$
- ***More in the MoO***

# **Is Your Patient Ventilated?**

Indicate whether or not the patient is ventilated. For the purpose of the protocol all of the following are considered unassisted breathing/not ventilated:

- Extubated with face, mask, nasal prong oxygen, or room air  
OR
- T-tube breathing, OR
- Tracheotomy mask breathing, OR
  
- CPAP  $\leq 5$  ( PS  $<8$  or no pressure support; and without intermittent mandatory ventilation (IMV)

# ICU Form

## 5. Other organ failure (day 0-28): (Data points collected every other day, in ICU only)

Indicate unit of measure, then enter value or check NA/NR for not available/not recorded

Day	Date	Platelets	Bilirubin	Creatinine	GCS			MOD score calculated
0		<input type="radio"/> x 10 <sup>3</sup> /μL <input type="radio"/> x 10 <sup>9</sup> /L <input type="radio"/> x 10 <sup>9</sup> /ml <sup>3</sup>	<input type="radio"/> mg/dL <input type="radio"/> mmol/L	<input type="radio"/> mg/dL <input type="radio"/> mmol/L	<u>E</u>	<u>V</u>	<u>M</u>	0800
1		NA/NR	NA/NR	NA/NR				
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								

Computer generated

Computer generated

All values to come from ~ 0800

# Neurological Form

## 1. GCS:

Day	Date	Best GCS
1:		
2:		
3:		
4:		
5:		

*Best in 24 hour period*

## 2. ICP Monitoring?

No

Yes → Date placed:  /  /  (mm/dd/yyyy)

→ Time placed:  :  (hh:mm)

→ Opening ICP:  mmHg → Initial CPP:  mmHg

Hours	From	To	Highest ICP (mmHg)	# hrs ICP > 25	# hrs CPP < 60	Total gm/kg Mannitol	NA/NR
0-12:	Date: <input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	↓
	Time: <input type="text"/>	<input type="text"/>					
12-24:	Date: <input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
	Time: <input type="text"/>	<input type="text"/>					
24-36:	Date: <input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
	Time: <input type="text"/>	<input type="text"/>					
	Date: <input type="text"/>	<input type="text"/>					

# Neurological Form

## 2. ICP Monitoring?

No

Yes → Date placed:  /  /  (dd/mm/yyyy)

→ Time placed:  :  (hh:mm)

→ Opening ICP:  mmHg → Initial CPP:  mmHg

Hours	Date(dd/mm/yyyy)/Time		Highest ICP (mmHg)	# hrs ICP > 25	# hrs CPP < 60	Total gm/kg Mannitol	NA/NR
	From	To					
0-12	<input type="text" value="16"/> / <input type="text" value="8"/> / <input type="text" value="2006"/>	<input type="text" value="17"/> / <input type="text" value="8"/> / <input type="text" value="2006"/>	<input type="text" value="25"/>	<input type="text" value="0.00"/>	<input type="text" value="0.00"/>	<input type="text" value="20.00"/>	↓
	<input type="text" value="21"/> : <input type="text" value="00"/>	<input type="text" value="9"/> : <input type="text" value="00"/>					
12-24	<input type="text" value="17"/> / <input type="text" value="8"/> / <input type="text" value="2006"/>	<input type="text" value="17"/> / <input type="text" value="8"/> / <input type="text" value="2006"/>	<input type="text" value="24"/>	<input type="text" value="0.00"/>	<input type="text" value="0.00"/>	<input type="text" value="20.00"/>	<input type="checkbox"/>
	<input type="text" value="9"/> : <input type="text" value="00"/>	<input type="text" value="21"/> : <input type="text" value="00"/>					
24-36	<input type="text" value="17"/> / <input type="text" value="8"/> / <input type="text" value="2006"/>	<input type="text" value="18"/> / <input type="text" value="8"/> / <input type="text" value="2006"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="checkbox"/>
	<input type="text" value="21"/> : <input type="text" value="00"/>	<input type="text" value="9"/> : <input type="text" value="00"/>					

# Neurological Form

## 3. Other interventions for intracranial hypertension (from the time of 1<sup>st</sup> ED Admit)?

- No  
 Yes → Complete box below

Hours	Date/Time		3% Saline		Hyper-ventilation (CO <sub>2</sub> < 30)		Crani-otomy		Ventric-ulostomy		Ventric drainage	
	From	To	Yes	No	Yes	No	Yes	No	Yes	No D/c/d	ml	
0-12	Date:		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
	Time:											
12-24	Date:		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
	Time:											
24-36	Date:		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
	Time:											
36-48	Date:		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
	Time:											
48-72	Date:		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
	Time:											
72-96	Date:		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
	Time:											
96-120	Date:		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="text"/>
	Time:											

Computer generated

Other 1, specify: \_\_\_\_\_  
 Date:  /  /  (mm/dd/yyyy) Time:  :  (hh:mm)

Other 2, specify: \_\_\_\_\_  
 Date:  /  /  (mm/dd/yyyy) Time:  :  (hh:mm)

Other 3, specify: \_\_\_\_\_  
 Date:  /  /  (mm/dd/yyyy) Time:  :  (hh:mm)

?

# Neurological Form

## 4. Any seizures?

- No  
 Yes → Complete box below

Hours	Date/Time		Seizures?		If yes to seizures, was seizure activity while on anticonvulsant?			
	From	To	Yes	No	Yes	No		
0-12	Date:	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Time:	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12-24	Date:	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Time:	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
24-36	Date:	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Time:	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
36-48	Date:	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Time:	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
48-72	Date:	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Time:	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
72-96	Date:	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Time:	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
96-120	Date:	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Time:	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Computer  
Generated

# Care Guidelines Form

## 1. CVP/PA Catheter used during first 48 hours of resuscitation (from ED Admit):

From To  
 Date:    
 Time:

*Required on all records*

Yes No

- CVP Catheter  
  PA Catheter

IF PATIENT DISCHARGED PRIOR TO DAY 3, STOP HERE

## 2. Insulin from day of episode:

Indicate units of measure for glucose:  mg/dL  mmol/L

Day/Date	Highest Glucose		Insulin Drip?	
	Value	NA/NR	Yes	No
3: <input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>
4: <input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>
5: <input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>

*Times will pre-fill*

## 3. Transfusion from day of episode:

Indicate units of measure for Hgb:  mg/dL  g/dL  g/L

Day/Date	Lowest Hgb		Transfusion?	
	Value	NA/NR	Yes	No
3: <input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>
4: <input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>
5: <input type="text"/>	<input type="text"/>	<input type="checkbox"/>	<input type="radio"/>	<input type="radio"/>

# Care Guidelines Form

## 4. Sedation from day of episode:

Day/Date	Benzo drip?		Narcotic drip?		Propofol drip?	
	Yes	No	Yes	No	Yes	No
3: <input type="text"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4: <input type="text"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5: <input type="text"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## 5. Nutrition from day of episode?

Day/Date	Enteral nutrition?		Parenteral nutrition?	
	Yes	No	Yes	No
3: <input type="text"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4: <input type="text"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5: <input type="text"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

*Times will pre-fill*



# Enteral vs Parenteral Feeding

## 1) Enteral: within or by way of the intestine

- Oral feeding
- Tube feeding
  - Nasogastric, nasointestinal
  - Gastrostomy (PEG), jejunostomy

## 2) Parenteral: not within the intestine

- Intravascular (bloodstream)
- TPN 'Total Parenteral Nutrition'



# Hospitalization Form

1. Date admitted to hospital:  /  /  (mm/dd/yyyy)

2. Major procedures:

No → Skip to item 3

Yes →

Procedures	Code	Date (mm/dd/yyyy)
1:	<input type="text"/>	<input type="text"/> / <input type="text"/> / <input type="text"/>
2:	<input type="text"/>	<input type="text"/> / <input type="text"/> / <input type="text"/>
3:	<input type="text"/>	<input type="text"/> / <input type="text"/> / <input type="text"/>
4:	<input type="text"/>	<input type="text"/> / <input type="text"/> / <input type="text"/>
5:	<input type="text"/>	<input type="text"/> / <input type="text"/> / <input type="text"/>
6:	<input type="text"/>	<input type="text"/> / <input type="text"/> / <input type="text"/>
7:	<input type="text"/>	<input type="text"/> / <input type="text"/> / <input type="text"/>
8:	<input type="text"/>	<input type="text"/> / <input type="text"/> / <input type="text"/>
9:	<input type="text"/>	<input type="text"/> / <input type="text"/> / <input type="text"/>
10:	<input type="text"/>	<input type="text"/> / <input type="text"/> / <input type="text"/>

**Procedures key code:**

1. Tracheostomy
2. Laparotomy
3. Laparotomy with enteric injury
4. Thoracotomy/sternotomy/VATS
5. Percutaneous drainage of empyema, lung abscess, intra-abdominal abscess
6. Peripheral vascular (*by pass grafting, or major vascular repair*)
7. Open fixation of fracture (*includes fasciotomy for extremity compartment syndrome*)
8. Craniotomy
9. Neck exploration
10. Angiographic control of hemorrhage

# Hospitalization Form

### 3. Infection?

No → Skip to item 5

Yes →

Infection	Location code	Date (mm/dd/yyyy)	Organism code
1:			
2:			
3:			
4:			
5:			
6:			
7:			
8:			
9:			
10:			

#### Infection location key codes to be used in above table:

- |                          |                             |                             |
|--------------------------|-----------------------------|-----------------------------|
| 1. Pneumonia             | 5. Cholecystitis            | 9. Wound infection          |
| 2. Bloodstream infection | 6. Empyema                  | 10. Intra-abdominal abscess |
| 3. UTI                   | 7. Pseudomembranous colitis | 11. Osteomyelitis           |
| 4. Meningitis            | 8. Line infection           |                             |

#### Infecting organism key codes to be used in above table:

- |                                     |                                      |                                        |
|-------------------------------------|--------------------------------------|----------------------------------------|
| 1. Gram (+) Coag.neg. staphylococci | 10. Gram (-) Serratia marcescens     | 19. Anaerobes: not otherwise specified |
| 2. Gram (+) S. aureus               | 11. Gram (-) Pseudomonas aeruginosa  | 20. Fungi: Candida sp                  |
| 3. Gram (+) Enterococcus            | 12. Gram (-) Hemophilus influenzae   | 21. Fungi: Aspergillus sp              |
| 4. Gram (+) Strep. Pneumoniae       | 13. Gram (-) Stenotrophomonas        | 22. Fungi: not otherwise specified     |
| 5. Gram (+) Strep. Viridans         | 14. Gram (-) Acinetobacter           | 23. Viral: Cytomegalovirus             |
| 6. Gram (+) not otherwise specified | 15. Gram (-) Proteus                 | 24. Viral: Other Herpes virus          |
| 7. Gram (-) E. coli                 | 16. Gram (-) not otherwise specified | 25. Viral: not otherwise specified     |
| 8. Gram (-) Enterobacter species    | 17. Anaerobes: Clostridium sp        |                                        |
| 9. Gram (-) Klebsiella pneumoniae   | 18. Anaerobes: Bacteroides sp        |                                        |

# Hospitalization Form

**4. Pneumonia diagnosis method:** (If one of the infections above is pneumonia, indicate diagnosis method. Check one only)

- Bronchoalveolar lavage
- Protected specimen brushing
- Positive sputum gram stain

*Pneumonia definition MoO p 62*

**5. Non-infectious complication?**

- No → Skip to item 6
- Yes →

Complications	Code	Date (mm/dd/yyyy)		
1:			/	/
2:			/	/
3:			/	/
4:			/	/
5:			/	/
6:			/	/
7:			/	/
8:			/	/
9:			/	/
10:			/	/

**Complications key code:**

- |                          |                                   |
|--------------------------|-----------------------------------|
| 1. Fat embolism syndrome | 5. Deep venous thrombosis (DVT)   |
| 2. Cardiac arrest        | 6. Pulmonary embolus              |
| 3. Myocardial infarction | 7. Abdominal compartment syndrome |
| 4. Cerebral infarction   | 8. Extremity compartment syndrome |

# Hospitalization Form

**6. Date and time of hospital discharge or death?**

Date of discharge or death:  /  /  (mm/dd/yyyy)

Time of discharge or death:  :  24 hr clock (hh:mm)

**7. Total ICU days:**

**8. Since original hospital admission, was patient transferred to another hospital?**

No

Yes → Name and location of discharge hospital

Hospital name:

City:

State/Province:

# Hospitalization Form

**9. Was TBI outcome interview administered prior to hospital discharge for TBI patients?**

- Yes
- No → Why not?
  - Patient unavailable
  - Family unavailable
  - LAR unavailable
  - Refused consent

**10. Disposition at discharge:***(check one only)*

- Inpatient rehabilitation facility
- Skilled nursing facility
- Nursing home
- Home with services
- Home
- Another acute care facility →Specify reason for transfer:  (30)
- Jail
- Against medical advice
- Death → Place of death: *(check one only)*
  - Operating room
  - ICU
  - Intermediate Care Unit
  - Regular ward/telemetry
  - Other:  (30)

# Hospitalization Form

## 11. Cause of death:

Primary (check one only)	Secondary (check one only)
<input type="radio"/> Hypovolemic shock	<input type="radio"/> Hypovolemic shock
<input type="radio"/> Sepsis	<input type="radio"/> Sepsis
<input type="radio"/> Hypoxia	<input type="radio"/> Hypoxia
<input type="radio"/> Cardiac dysfunction	<input type="radio"/> Cardiac dysfunction
<input type="radio"/> TBI	<input type="radio"/> TBI
<input type="radio"/> Anoxic brain injury	<input type="radio"/> Anoxic brain injury
<input type="radio"/> Multiple organ failure	<input type="radio"/> Multiple organ failure
<input type="radio"/> Pulmonary embolism	<input type="radio"/> Pulmonary embolism
<input type="radio"/> Unknown	<input type="radio"/> Unknown
<input type="radio"/> Other, specify below: <input type="text"/> (30)	<input type="radio"/> Other, specify below: <input type="text"/> (30)

*Both*

# Hospitalization Form

**12. Was care withdrawn prior to death?**

- No  
 Yes → Reason:

**Yes No**

- CNS Issues (eg. brain death, devastating or non-survivable head injury)  
  Organ failure  
  Other, describe: (30)

**13. Were any adverse events uncovered during the hospitalization? (e.g. found to be pregnant after hospital admit)**

- No  
 Yes → Explain:  (30) → Complete the **Alert CTC** form.

# Patient Family Consent

## 1. Was patient and/or family and/or LAR notified that patient was in study?

Yes → Who was notified?

- Family → Date:  /  /  (mm/dd/yyyy)
- Patient → Date:  /  /  (mm/dd/yyyy)
- LAR → Date:  /  /  (mm/dd/yyyy)

No\*

## 2. Did patient and/or family and/or LAR consent to continuation in study?

Yes → Who gave consent?

- Family → Date:  /  /  (mm/dd/yyyy)
- Patient → Date:  /  /  (mm/dd/yyyy)
- LAR → Date:  /  /  (mm/dd/yyyy)

No\* → Why not? (check all that apply)

- Patient/family LAR refused consent
- Not applicable/expired
- Other\*

# Patient Family Consent

## 3. Did patient and/or family and/or LAR consent to a 1 and 6 month follow-up call?

Yes → Who gave consent?

Family → Date:  /  /  (mm/dd/yyyy)

Patient → Date:  /  /  (mm/dd/yyyy)

LAR → Date:  /  /  (mm/dd/yyyy)

No\* → Why not? (check all that apply)

Patient/family LAR refused consent

Not applicable/expired

Other\*

## 4. If any of the starred bubbles are checked above (and greater than 1 month since the episode), explain the attempts made:

	(60)
	(60)
	(60)

# First Follow-Up

## 1. Was the patient (or patient representative) successfully contacted?

- No → Why not?  (30)
- Yes → Date:  /  /  (mm/dd/yyyy)
- Where contacted?  Home  SNF  Rehab

## 2. Was the patient difficult to contact?

- No
- Yes → Administer the **TBI Outcome Interview** (for TBI patients only)

## 3. Follow-up conducted with whom?

- Patient
- Family
- Other:  (30)

## 4. Vital status:

- Alive
- Dead → Date of death:  /  /  (mm/dd/yyyy); If day of death is not available:  /  (mm/yyyy)
- Any available information on cause of death?
- No
- Yes →  (30)
- (30)

**Ensure correct contact information!**

# First Follow-Up

## 4. Vital status:

Alive

Dead → Date of death:  /  /  (mm/dd/yyyy); If day of death is not available:  /  (mm/yyyy)

Any available information on cause of death?

No

Yes →  (30)

(30)

## 5. Was the patient re-hospitalized after discharge?

No

Unknown

Yes → Length of stay:  (days)

Reason:  (30)

# Six Month Follow-Up

## 1. Was the patient (or patient representative) successfully contacted?

- No → Why not?  (30)
- Yes → Date:  /  /  (mm/dd/yyyy)

## 2. Follow-up conducted with whom?

- Patient
- Family
- Other:  (30)

## 3. Vital status:

- Alive → Complete the **TBI Outcome Interview** form
- Dead → Date of death:  /  /  (mm/dd/yyyy); If day of death is not available:  /  (mm/yyyy)  
Any available information on cause of death?
- No
- Yes →  (30)  
 (30)

# ***TBI Outcome Interview***

- Done at or near discharge
- Done at one month if patient difficult to locate
- Done at six months

***Be sure to check for accurate contact information***

# *Outcomes and Follow-Ups*

- We must strive for 100%



## ***Data Collection Duties***

- **Ensure patient Info letter on chart**
- **Ensure flashy new info sheet on chart**
- **Start data collection ASAP**
- **Start entering data ASAP (Trauma)**
- **Fax CT reports ASAP**
- **Get CDs or email images**

## ***Data Collection Duties***

- **Liaise with Ottawa ROC RCC**
- **Status report once a week**
- **Assist with SAE reporting**

**May need info STAT! due to SAE reporting guidelines!**

# *Discussion*

- Part time data collectors
- Holiday coverage
- Alternate coverage
- Back up person

# ***Big Brother Watching!***

## **Sodium Protocol Monitoring Compliance Committee**

- ▶ **Close tracking of compliance**
- ▶ **Deviations from standard reviewed**
- ▶ **Poor performance = remediation**
- ▶ **No improvement = no participation**

***Together we can do it!***



# Error Messages

## Form Verification Exceptions

Intraform Item 0 **HIDDEN DATA**

Override: We do not have a date for hospital discharge, and sufficient time has elapsed to allow closure of this form. This is derived from the Hospitalization form. Either you have not filled out the Hospitalization form, or you did not provide a date discharge on that form. Just override this error without a reason so that we can know that certain intraforms could not be run.

Override  
Reason:

Confirmation Page

