Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive

Tús Áite do Shábháilteacht Othar
Patient Safety First

ACUTE MEDICINE

National Early Warning Score and associated Education Programme

CASE STUDY 2

Case Study 2

Facilitator Card

Case 2 (Post Op)

The important things to get across in this case are:

- Recognise that the patient is deteriorating
- Recognise the pulse and blood pressure trends on the observation chart
- Simple management: IV cannula, IV fluids, Oxygen
- Working out for themselves what is going on with this patient
- Use the escalation flow chart
- Communicate using ISBAR

Presents with increasing pain on day 3 post op due to internal bleeding and requires a return to theatre. Blood volume has decreased due to the bleeding, leading to decreased Cardiac Output, resulting in decreased urinary output & Hypotension (BP =Cardiac Output x Total Peripheral Resistance). Heart Rate (HR) increased because stroke volume has fallen and compensatory increase Heart Rate to maintain Cardiac Output and Respiratory Rate increased (either due to pain or lactic acidosis from inadequate oxygen delivery because Cardiac Output fallen DO_2=Cardiac Output x Arterial O_2 content)

- EWS increasing
- Pain increasing
- PCA chart- increasing demands & delivery amounts over past 12 hours
- Fluid balance – decreasing urinary output and increasing nasogastric aspirate
- Bloods –Hb down, HCT down, Urea & Creatinine elevated.
- Medication Prescription Chart
    - fasting, hasn't had Perindopril
    - oral Prednisone replaced with IV Hydrocortisone
    - regular Paracetamol given

Case 2:

Aim: To recognise a deteriorating post-operative patient

Learning Objectives:

- Obtain adequate history
- Obtain appropriate vital signs
- Refer appropriately
- Communicate effectively

Equipment:

- Facilitator Card
- Player 1 Card – Patient
- Player 2 Card –RGN
- IV cannula
- Medication Chart
- Blood Test Results
- Observation Chart
- Fluid Balance Chart
- Communication Card

Roles in the scenario:

1. Patient
2. Registered Nurse
3. SHO
4. Surgical Registrar
5. Optional extras:

- Additional Nurses
- Consultant
- Relative
- Relative

Scenario:
Will Smith
Healthcare Record: 123457

Mr Smith is a 64 year old male post laparotomy with division of adhesions and formation of an ileostomy.

History of Ulcerative Colitis and Hypertension.

Day 3 post op nil by mouth with increasing abdominal pain, tachycardic, initially normotensive, diaphoretic, complaining of dizziness on standing. Ileostomy has not been active and the stoma is dusky in appearance.

Initially post op his pain has been under control using a PCA. Now on day 3 he has had a gradual increase in usage and his pain is not controlled.

Pain is increasing to 8/10. He feels generally unwell and light headed. When asked he has not passed flatus from the ileostomy, his urine output is decreased and he does not have a palpable bladder.

To start the scenario:

1. Assign roles to each player
2. Set up room with patient in a bed
3. Give the first player card to the player designated as the Patient
4. Give the second player card to the player designated as the RGN
5. When the RGN phones the SHO, place the two players (RGN & SHO) back to back to simulate communication via the phone
6. Allow the scenario to build on itself prompting other players to enter as called for or prompt if necessary
7. Supply players with further information such as medication charts, observations or blood results when asked

During the scenario:
If the RGN needs prompting:

1. What questions/assessments are required for patient?
   - Assess pain
   - Vital signs
   - Urine Output – Fluid balance chart
   - Assess abdomen/ passing flatus/bowel sounds
   - General assessment – pale, diaphoretic.

2. Who would you notify? Why?
   - Anaesthetic Registrar – In surgery and not available to review patient.
   - SHO- phoned

Facilitator should place RGN and SHO back-to-back to simulate phone conversation
In the phone call the RGN should:

- Describe the patients history
- State what she/he would like the SHO to do: i.e. come and review the patient.

SHO comes to review the patient:

1. What information do you require from the RGN?
   - Vital signs
   - Fluid balance chart
   - Brief history
2. What assessment would you do? (Prioritise)
   - ABC
   - Abdominal Assessment (Inspect, Auscultate, Palpate, Percussion)
   - Bloods
3. What is your management plan for this patient?
   - Oxygen
   - IV access
   - IV Fluids
   - Pain relief
   - Investigations
   - Notify Registrar
4. Who will you notify?
   - Registrar or Consultant

Registrar comes to review the patient:

1. What information do you require from the SHO?
   - Assessment
   - Vital Signs
   - FBC, U&E, Group & X-Match

2. Who would you notify?
   - Consultant
   - ? ICU
   - ? OT
   - ? Operating Theatre

3. What is your management plan for this patient?
   - Oxygen
   - IV Cannula
   - IV Therapy
   - Pain relief
   - CT +/- Operating Theatre

Questions:

1. What are your next actions as a group?
   - Notify
   - Prepare for transport

2. How often should observations be observed?
   - Half Hourly for 1 hour then hourly for 4 hours

To summarise

Ask the group:

1. What they thought went well?
2. What suggestions would they make to improve their roles

Take home message for Case 2
1: Look at trends –increasing EWS & pain
2: Understand why the observations have changed (decreased stroke volume due to bleeding therefore decreased cardiac output)
3: Gathering all the information & communicating it.

Case Study 2

Player 1 Card

Patient

You are Mr Smith a 64 year old male post laparotomy with division of adhesions and formation of an ileostomy. Background history of ulcerative colitis and hypertension.

Day 3 post op nil by mouth with increasing abdominal pain, tachycardic, initially normotensive, diaphoretic, c/o dizziness on standing. Ileostomy has not been active and the stoma is dusky in appearance.

Initially post op your pain has been under control via use of the PCA, however over night it has gradually worsened and you are unable to control the pain. You call the nurse to ask for more pain relief. You have dry lips and complain of severe thirst.

Nurse arrives: Increasing pain 8/10. You feel generally unwell and light headed. When asked you have not passed flatus from the ileostomy, you have a urinary catheter in situ and although urine output is decreased you do not feel like you have a full bladder.

Case Study 2

Player 2 Card

RGN

You are caring for 5 patients on a surgical ward. One patient Mr Smith is a 64 year old male post laparotomy with division of adhesions and formation of an ileostomy. Background history of ulcerative colitis and hypertension.

Day 3 post operatively with a tube on free drainage and 4 hourly aspirates. Urinary catheter in-situ
You last saw him one hour ago when you did his observations. He has now buzzed

Case Study 2

Blood Results

Blood Test	PRE-OP	Day 3	Normal Range
Hb	13.8	10.5	11-15
Hct	0.44	0.31	0.32-0.47
WCC	5.6	10.0	4.0-11.0
Na	142	142	137-145
K	4.0	4.0	3.5-5.0
Urea	5.3	10	2.5-7.5
Creatinine	75	130	60-110

Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive

CASE STUDY 2.

Early Warning Score System

0 | 1 | 2 | 3

Consultant: Mr. Courtney

Patient Name: Will Smith.
Date of Birth: 2/2/1945
Healthcare Record No: 123457
Addressograph

Ward: Ward 4
Year 2011
Frequency of observations

ABCDE Assessment

AB

RESPIRATORY DISTRESS
Consider:
- Airway
- Hypoxia
- Acidosis

Intervention:
- Immediate medical review
- ABCDE assessment
- Give Oxygen to target: 90% in COPD patients, 96% or more in all other patients
- Request CXR & ABG
- Airway Obstruction: activate Emergency Response System
- Respiratory Acidosis: Consider early non-invasive ventilation

C

HYPERTENSION
Consider:
- Pain
- Hypercapnia

Intervention:
- Immediate medical review
- 12-lead ECG

HYPOTENSION
Consider:
- Bleeding
- Myocardial Infarction
- Sepsis

Intervention:
- Immediate medical review
- Check BP manually
- 12-lead ECG
- If no heart failure, stat IV fluids - 500ml
- If no improvement after 20ml/kg: immediate review by doctor
- Systolic BP ≤ 90: activate ERS

TACHYCARDIA
Consider:
- Seagull Sign
- Loss of conciousness
- Myocardial ischaemia on ECG
- Heart failure

If YES – activate ERS

Intervention:
- Immediate medical review
- ACLS Algorithm as appropriate

BRADYCARDIA
Consider:
- Electrolyte Disturbance
- Drug Side-effect
- Complete Heart Block

Intervention:
- Immediate medical review
- 12-lead ECG
- Telemetry
- Heart Rate ≤ 40: activate ERS
- Document irregular Heart Rate

D

NEUROLOGICAL DETERIORATION
Consider:
- Hypoglycaemia
- Acute brain injury
- Pupil response

Intervention:
- Immediate medical review
- Capillary glucose
- Sudden fall in level of consciousness: activate ERS

E

PYREXIA OR HYPOTHERMIA
Consider:
- Sepsis

Intervention:
- Immediate medical review
- C-Reactive protein
- Two or more Sepsis indicators present
- Commence SEPSIS SIX Regimen

	04/11	06	10	16	18	22	06
Respiratory Rate (breaths per minute) ≥ 25							
21-24						22	24
12-20		16			18		
9-11							
≤ 8							
Respiration Score		0			0	2	3
SpO_2 % ≥ 96	98	98	97	98	96	93	98
94-95							
92-93							
≤ 91							
SpO_2 Score	0	0	0	0	0	0	0
F_iO_2 Room Air							
% or L/min	6	6	6	6	6	6	6
F_iO_2 Score	3	3	3	3	3	3	3
Systolic BP ≥ 200: Doctor to review							
Blood Pressure (mmHg)							
BP Score	0	0	0	0	0	1	1
Heart Rate (beats per minute)							
Heart Rate ≤ 40: Urgent medical review							
Heart Rate Score	0	0	1	1	2	2	3
AVPU Alert (A)	✓	✓	✓	✓	✓	✓	✓
Voice (V)							
Pain (P)							
Unresponsive (U)							
AVPU Score	0	0	0	0	0	0	0
Temperature (°C)							
Temp Score	0	0	0	0	0	0	0
Total EWS	3	3	4	4	5	7	9
Blood Glucose							
Bowel Movement							
Weight (kg)							
Initials	WH	LMG	LMG	NMS	MSM	WH	WH

Urine Output: If there are concerns about urine output (< 0.5 ml/kg/hr), contact Doctor for review

Letterkenny General Hospital.

Fluid Balance Chart. **Date:** 18 - 05 - 11

Name: Will Smith **P.C.N.** 123457

	Intake					Output						
Time	**By Mouth**		**I.V. or other Routes**		**Total**	**Urine**	**Faeces**	**Vomit**	**Gast. Asp.**	**Drain**	**Drain**	**Total**
	Amt	**Type**	**Amt**	**Type**					NG		Ileostomy	
00.00	FASTING		125	NIS		80			↓		↓	80
01.00	↓		125	+30 KCl	250	75						155
02.00			125		375	78			15		0	248
03.00			125		500	76						324
04.00			125		625	60						384
05.00			125			63						447
06.00			125		875	60			20			527
07.00			125		1000	64						591
08.00						70						661
09.00			125	NaCl	1125	65						726
10.00			125		1250	62			15		0	803
11.00			125		1375	58						861
12.00			125		1500	60						921
13.00			125		1625	56						977
14.00			125		1750	50			15			1042
15.00			125		1875	50						1092
16.00			125		2000	52						1144
17.00			125	NaCl	2125	48						1192
18.00			125		2250	50			40		0	1282
19.00			125		2375	36						1318
20.00			125		2500	42						1360
21.00			125		2625	40						1400
22.00			125		2750	44			75		0	1519
23.00			125		2875	42						1561
24 hr Total					2875							1561

Balance: + 1314

F0010A

Fluid Balance Chart

Measurements

Cups:

Plastic----------*150mls*
Paper----------*150mls*
Tea----------*150mls*
MUG----------*200mls*

Glass:

Large----------*210mls*
Small----------*180mls*

Bowls:

Stainless steel---------*160mls*
Rectangular dessert--*160mls*
Round dessert--------*100mls*

Feeders:

Two handled----------*180mls*
Beaker----------*200mls*

Miscellaneous

Cans:----------*330mls*
(Coke, 7up, orange etc.)

Cartons of Juice

(Ribena, orange etc.)
Small----------*100mls*
Large----------*288mls*

Carton of ensure---*200mls*
Tin of perative------*237mls*

Miscellaneous

Ice cube----------*10mls*

Pineapple slice----------*10mls*

Medicine cup----------*60mls*

Juice of Large orange---*50mls*

V. McC.M.
01/01/03

Letterkenny General Hospital.

Fluid Balance Chart.

Date: 19-05-2011

Name: Will Smith

P.C.N. 123457

	Intake					Output						
Time	**By Mouth**		**I.V. or other Routes**		**Total**	**Urine**	**Faeces**	**Vomit**	**Gast. Asp. NG.**	**Drain**	**Drain Ileostomy**	**Total**
	Amt	**Type**	**Amt**	**Type**					↓		↓	
00.00	FASTING		125	NaCL	125	35			↓		↓	35
01.00	↓		125		250	37						72
02.00			125		375	28			150		0	250
03.00			125		500	28						278
04.00			125		625	22						300
05.00			125		750	18						318
06.00			125		875	14			250		0	582
07.00			125		1000	8			200			790
08.00												
09.00												
10.00												
11.00												
12.00												
13.00												
14.00												
15.00												
16.00												
17.00												
18.00												
19.00												
20.00												
21.00												
22.00												
23.00												
24 hr Total												

Balance:

F0010A

Fluid Balance Chart

Measurements

Cups:

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Paper----------*150mls*
Tea----------*150mls*
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Miscellaneous

Ice cube----------*10mls*

Pineapple slice----------*10mls*

Medicine cup----------*60mls*

Juice of Large orange---*50mls*

V. McC.M.
01/01/03

CASE STUDY 2

REGULAR PRESCRIPTIONS

Name: WILL SMITH
Address:
Date of Birth: 2/2/1945 Age: 64 yrs
Healthcare Record Number: 123457

Please affix patient label here.
Labels should contain the following:

Prescription 2009

Date	2/10	3/10	4/10

Drug (approved name): PERINDOPRIL
Dose: 4mgs **Freq:** MANE **Route:** PO
Prescriber's signature and Registration No.: SMITH X421
Start Date:
Pharmacist:
Stop Date & Signature:

08:00	F	F	F
12:00			
16:00			
22:00			

Drug (approved name): PREDNISLONE
Dose: 5mgs **Freq:** MANE **Route:** PO
Prescriber's signature and Registration No.: SMITH X421
Start Date:
Pharmacist:
Stop Date & Signature:

08:00	F	F	F
12:00			
16:00			
22:00			

Drug (approved name): HYDROCORTISONE
Dose: 100mgs **Freq:** QID **Route:** IV
Prescriber's signature and Registration No.: SMITH X421
Start Date:
Pharmacist:
Stop Date & Signature:

08:00	TT	TT	
12:00	SB	SB	
16:00	SB	SB	
22:00	AR	AR	

Drug (approved name): PARACETAMOL
Dose: 1gram **Freq:** QID **Route:** PO
Prescriber's signature and Registration No.: SMITH X421
Start Date:
Pharmacist:
Stop Date & Signature:

08:00	TT	TT	
12:00	SB	SB	
16:00	SB	SB	
22:00	AR	AR	

Drug (approved name):
Dose: **Freq:** **Route:**
Prescriber's signature and Registration No.:
Start Date:
Pharmacist:
Stop Date & Signature:

08:00			
12:00			
16:00			
22:00			