

Case 1 – 13th August 2011

- 13/8 ED attendance
- PG male
- 79 yrs
- Retired labourer
- In garden moving furniture
- Sudden pain in groin
- Non-smoker
- Angina
- Hypertension
- Elevated cholesterol
- Diabetes Mellitus
- Poor memory - MMS 5/10

Medications

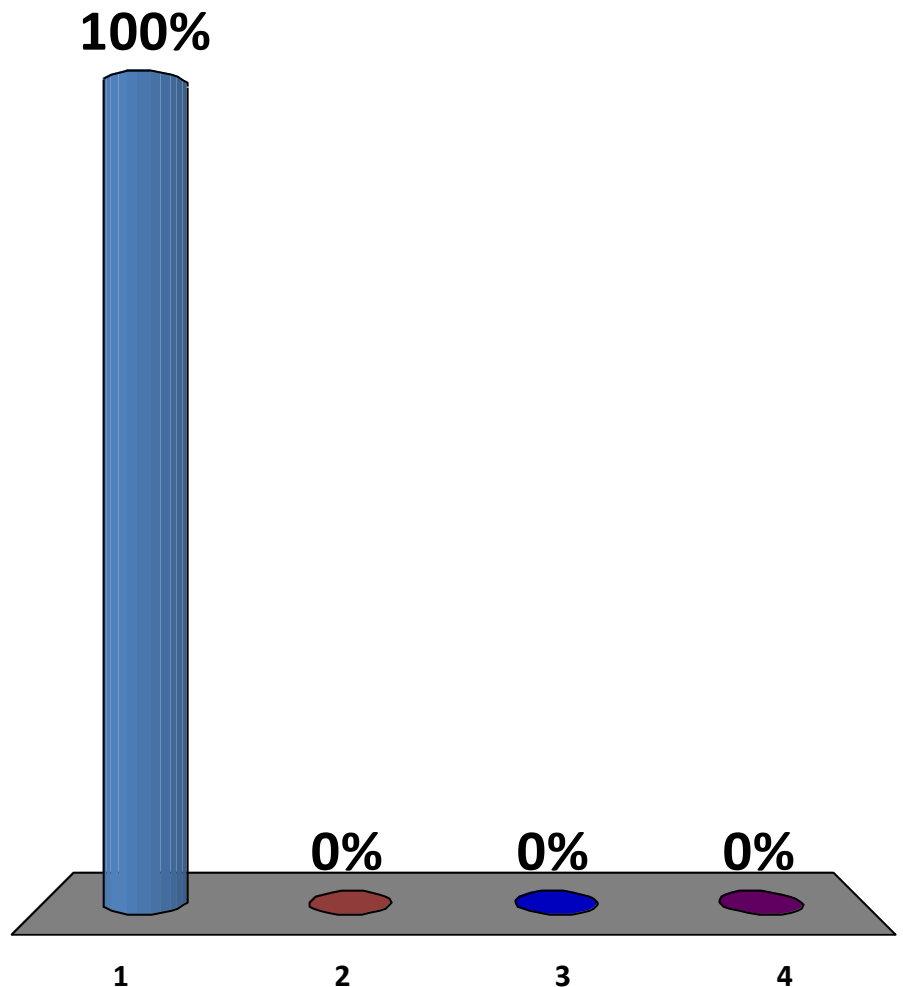
- 5 antihypertensives
- Statin
- Aspirin

15th & 16th August 2011

- 15/8/11 – surgery
- Incarcerated hernia
- Spinal anaesthesia – no problems
- 16/8 CRASH call ? time
- “Unresponsive” then normal
- Pale - HR 92: BP 124/80
- Cool peripheries
- “Weak thready pulse”
- BM 11

What is the appropriate response?

1. No action required
2. Record event prominently in clinical notes
3. Move to Coronary Care Unit
4. Investigations – ECG/CXR/?diabetes



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17/8/11 (D2 post-op)

Note

- *Transfused 1 unit overnight (Hb8.4)*
- *Stable – apyrexia, good colour, “feels good”*
- *Later Hb 7.9 – 2 units PRCs - Hb11.1*

Hospital Day 6 / Day 4 post-op

- 19/8 - colicky pain upper abdomen

Over next 48 hours entries include

Not eating well

Agitated

Confused

Hospital Day 7 / Day 5 post-op

- 20/8/11
- All well PEWS 0-2 but BP decreased to 115/70 at 2200hrs
- Next observations at 0820 next day.

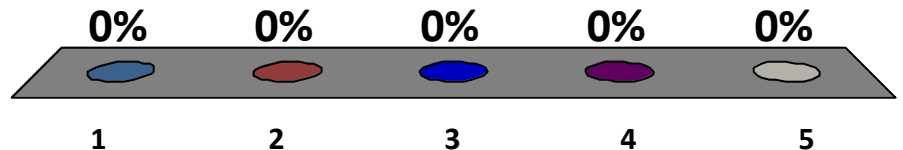
21st August 2011 D8 (D6 post op)

PEWS Score 5

- ?time - but probably 0900hrs approx
- “sweaty and clammy”
- HR – 108
- BP - 76/44
- RR - 36:
- AVPU= V
- BM - 2.9

What do you think is the most significant abnormality?

1. HR – 108
2. BP - 76/44
3. RR - 36
4. AVPU - Responding to verbal stimuli
5. BM - 2.9



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21st August 2011 D8 (D6 post op)

Treatment

- Fluid challenge 250ml x 2
- Dextrose 50%

21st August 2011 D8 (D6 post op)

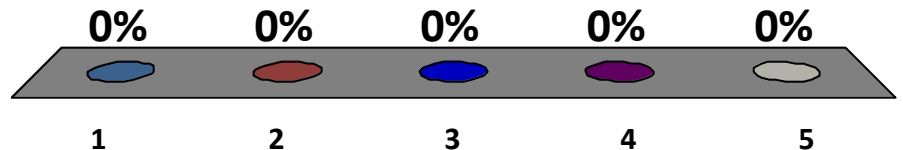
Plan 0900 hrs

- *“c/w regular observations”*
- *“More regular if deterioration”*
- *Wait 30 mins then reassess ABCDE*
- *Do bloods – need checked*

- *1030hrs (MEWS 5: BP - 75/42)*
- *Repeat troponin in 3 hrs*
- *IV phosphate*
- *c/w observations.*

Score plan for appropriateness from 1 (very poor) to 5 (excellent)

1. Very Poor
2. Poor
3. Fair
4. Good
5. Excellent



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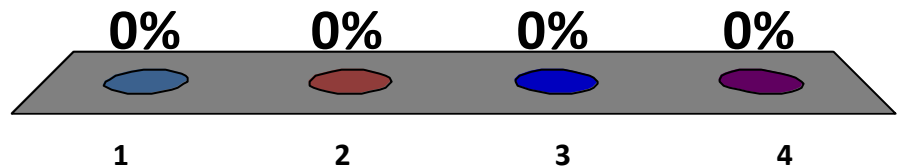
21st August 2011 D8 (D6 post op)

PEWS Score 7

- 1300 hrs
- HR 100
- Low BP 78/46 (120/70 yesterday)
- RR 34
- Lactate 6.9

What do you think is the most significant abnormality?

1. HR 100
2. Low BP 78/46
(120/70 yesterday)
3. RR 34
4. Lactate 6.9



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21st August 2011 D8 (D6 post op)

1300 hrs **PEWS Score 7**

Investigations

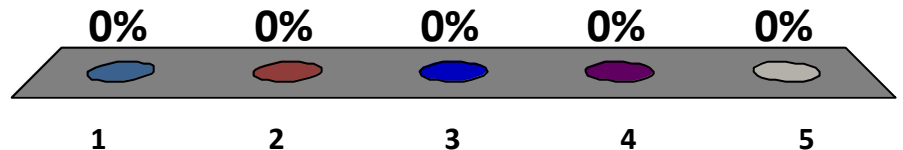
- Hb10
- WCC 4
- Na 133
- K 3.3
- U 11.4 Cr 149
- troponin 38

Plan

1. *Fluid challenge – monitor for fluid overload*
2. *Hourly urinometer, BM, ABG after fluid*
3. *If BP not improving will d/w Med Reg*

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21st August 2011 D8 (D6 post op)

SpR Note ? Time ?1400

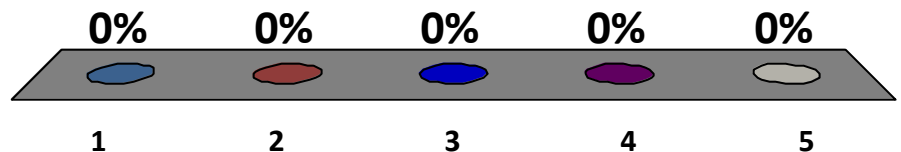
- *BP 66/38 after 1000ml IV fluids*
- *RR>30*
- *Needs 80% O2 to maintain “acceptable SpO2”*
- *Lactate decreased to 4.0*

21st August 2011 D8 (D6 post op)

- *More fluids*
- *If CRP increased - start “renal dose”
TAZOCIN*
- *Monitor LFTs - likely increased secondary
to anaesthetics & dehydration*
- *Hold nephrotoxics and antihypertensives*
- *Maintain SpO₂ >94%*
- *Monitor BM – Daily U&E*

Which of the following to you think is the most appropriate next step?

1. Transfuse more intravenous fluid
2. Give 100% oxygen through “non-rebreathing” mask
3. Start non-invasive ventilation
4. Request assessment for ICU or HDU admission
5. Start intravenous antibiotics



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21st August 2011 D8 (D6 post op)

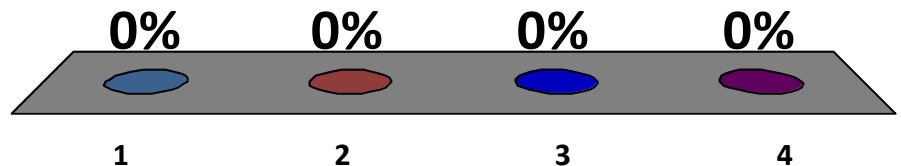
PEWS Score = 9

1545 hrs

- RR34 SpO2 96% on 80% O2
- HR 75 BP 70/40
- Fluid balance
 - 20/8 In/Out - 650/??
 - 21/8 In/Out - 2970/187

Which of the following to you think is the most appropriate next step?

1. Transfuse more intravenous fluid
2. Ask nephrology to see ? HD
3. Start non-invasive ventilation
4. Request assessment for ICU or HDU admission



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Clinical Summary

- 2 hours later patient in HDU
- MOF 2° to acute pancreatitis
- AKI – HD

Clinical Summary

- 2 hours later patient in HDU
- MOF 2^o to acute pancreatitis
- AKI – HD
- 23/8/11 short cardiac arrest arrest – successful resuscitation
- 07/09/11 DNAR
- 08/9/11 died

MEWS scores

17/8 – HDU transfer 21/8

First 64 hours

0	0	0	0	0	0	1	2	0	0	0	0	0	1	0	0	0	0	0	1
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

MEWS scores

17/8 – HDU transfer 21/8

First 64 hours

0	0	0	0	0	0	1	2	0	0	0	0	0	1	0	0	0	0	0	1
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Next 22 hours

*

0	1	5	5	5	5	5	10	5	4	5	5	5	5	5	6	9	9	9	7
---	---	---	---	---	---	---	----	---	---	---	---	---	---	---	---	---	---	---	---

MEWS scores

17/8 – HDU transfer 21/8

First 64 hours



Next 22 hours



Next 5 hours



Observations

- Signal from EWS strong
- Ward treatment - at best reactive
- No cause for instability pursued
- Late referral to critical care

Case 2

Case 2 –

- FH female
- 74 yrs
- Retired bank clerk
- H/o urinary tract infections
- treated by GP for UTI x 2 following abdominal pain and dysuria
- 2 weeks later sent by GP to ED with abdominal pain and “history of UTI”
- Has mild abdominal tenderness
- Non-smoker
- Asthmatic

Day 1-2 in hospital

PEWS Score 0-2

- BP 156/94
- HR 92
- T 38.3 max
- Hb 10.7
- WCC 14.5
- All else normal
- PEWS score 0-2
- Presented on ward round
- Diagnosis – recurrent UTI
- Standard management and scheduled for imaging of renal tracts etc

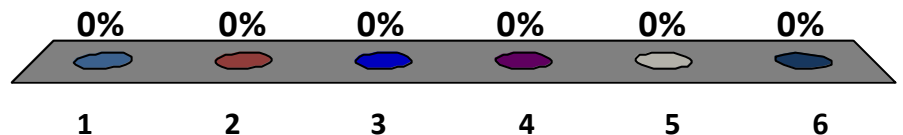
Day 3 in hospital -1030hrs

PEWS Score 2

- BP 104/68
- HR 98
- T 38.6 max
- Still complaining of abdominal pain
- Moderate tenderness
nil else
- PEWS score still 2

What should happen next?

1. No new actions necessary
2. Ask for imaging of renal tracts as an emergency
3. Contact microbiology to see if anything cultured from urine and review antibiotics
4. Give IV paracetamol for pyrexia
5. Ask senior doctor to review case
6. Other



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Patient's observations all remain the same for 4 hours

PEWS =2

Patient looks more unhappy and uncomfortable

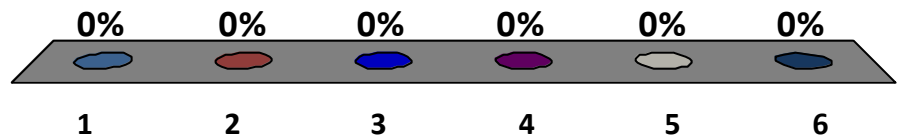
Day 3 in hospital -1430hrs

PEWS Score 2

- BP 104/68
- HR 98
- T 38.6 max
- Still complaining of abdominal pain
- Moderate tenderness
nil else
- PEWS score still 2

What should happen next?

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Day 3 – 2130 hrs

- Patient very distressed - pain
- RR > 30/min
- BP 84/40: HR 122
- Temp 38.7
- Urinary output 25,18,10 mls/hr

Day 3 – 23.45 hrs

- Temp 39.0
 - Abdomen - ?distended
 - Increased tenderness
 - No bowel sounds
-
- Hb 10.1
 - WCC 28.2

MEWS scores – Case 2



MEWS scores – Case 2



<<<<<<<< 58 hrs >>>>>>>>>

MEWS scores – Case 2

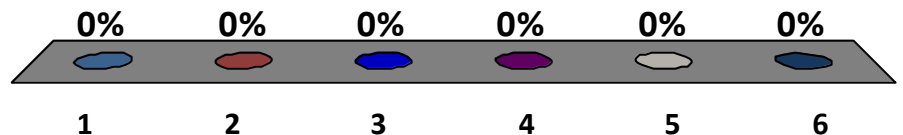


<<<<<<<< 58 hrs >>>>>>>>>

<<<< 4 hrs >>>>

What is the most urgent action required to help this patient?

1. Have observations every 15 minutes and a nurse to “special” the patient
2. Aggressive transfusion of IV fluids
3. Treatment to reduce pyrexia
4. Urgent CT scan of abdomen
5. Emergency laparotomy
6. Admission to ICU



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Case 3

OBSTETRIC PEWS CHART

(FOR MATERNITY USE ONLY)

Use addressograph-otherwise write in capitals

Surname: _____

First names: _____

Consultant: _____ Ward: _____

Hospital no: _____

DOB: _____

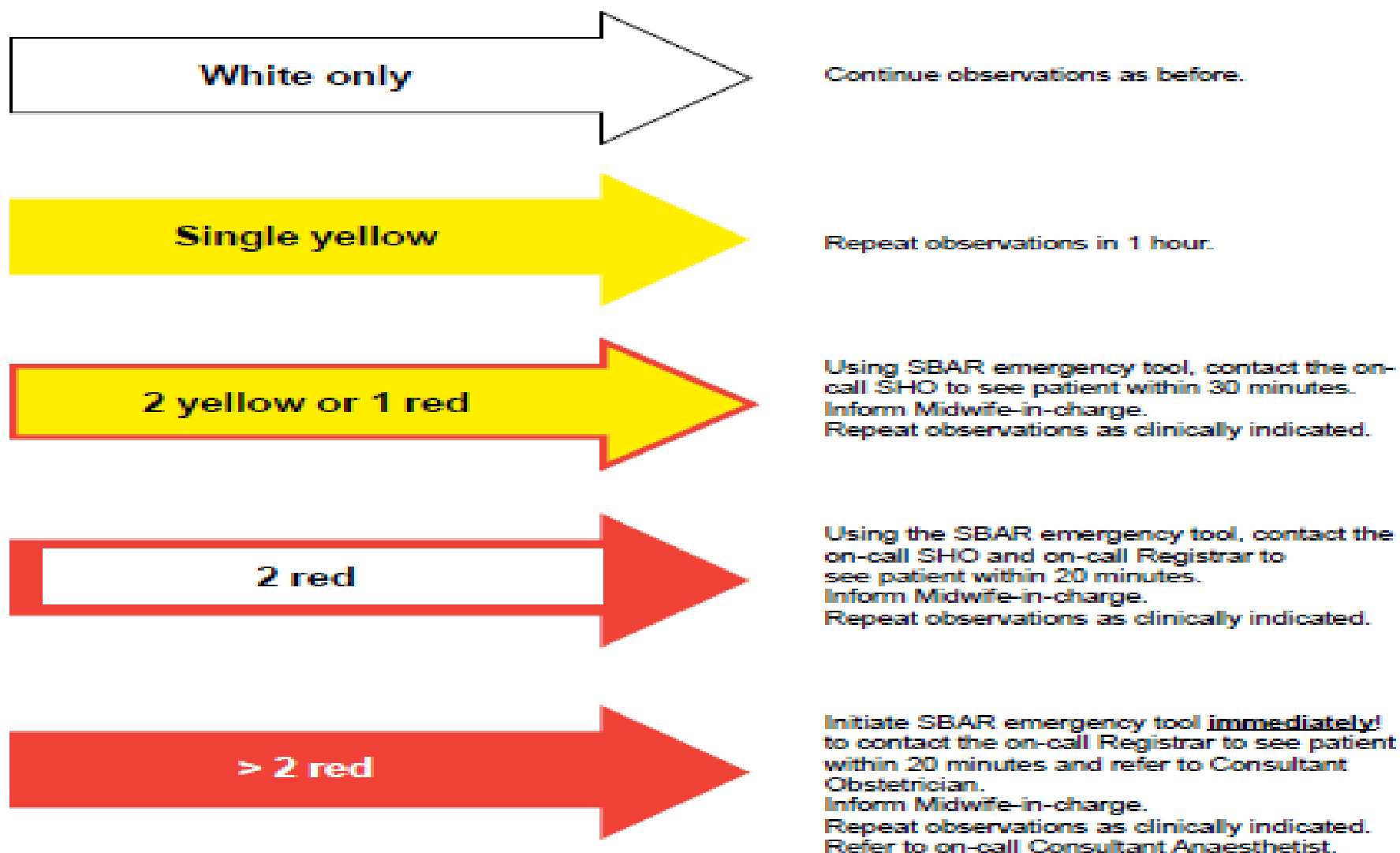
CONTACT DOCTOR FOR EARLY INTERVENTION IF PATIENT TRIGGERS ONE RED OR TWO YELLOW SCORES AT ANY ONE TIME

Date: _____																		Date: _____	
Time: _____																		Time: _____	
RESP. Write rate in coresp. box)	> 30																	> 30	
	25 - 30																	25 - 30	
	15 - 20																	15 - 20	
	0 - 10																	0 - 10	
Saturations	95 - 100%																	95 - 100%	
	< 95%																	< 95%	
On Code	Over one of 10 at 100% code																	On Code	
Temperature Number	39																	39	
	38																	38	
	37																	37	
	36																	36	
	35																	35	
Heart Rate Number	170																	170	
	160																	160	
	150																	150	
	140																	140	
	130																	130	
	120																	120	
	110																	110	
	100																	100	
	90																	90	
	80																	80	
	70																	70	
Systolic Blood Pressure Number	200																	200	
	190																	190	
	180																	180	
	170																	170	
	160																	160	
	150																	150	
	140																	140	
	130																	130	
	120																	120	
	110																	110	
	100																	100	
Diastolic Blood Pressure Number	130																	130	
	120																	120	
	110																	110	
	100																	100	
	90																	90	
	80																	80	
	70																	70	
	60																	60	
	50																	50	
	40																	40	
	Urine	Passed (YES)																	Passed (YES)
Proteinuria	protein +																	protein +	
Amniotic Fluid	Clear / Pink																	Clear / Pink	
A/B P/ Bleeding	Red / Green																	Red / Green	
Minimal	Minimal																	Minimal	
Moderate / Heavy	Moderate / Heavy																	Moderate / Heavy	
Neuro Resp (POISE 6)	Alert																	Alert	
Stable	Stable																	Stable	
Pain	Pain																	Pain	
Unresponsive	Unresponsive																	Unresponsive	
Pain Score (0-3)	0 - 1																	0 - 1	
2 - 3	2 - 3																	2 - 3	
Lochia	Normal																	Normal	
Heavy / Fast / Offensive	Heavy / Fast / Offensive																	Heavy / Fast / Offensive	
Lochia amount	NO (✓)																	NO (✓)	
YES (✓)	YES (✓)																	YES (✓)	
Wound	NO (✓)																	NO (✓)	
Satisfactory	YES (✓)																	YES (✓)	
IV Infusion Site	NO (✓)																	NO (✓)	
Satisfactory	YES (✓)																	YES (✓)	
Drain Site	NO (✓)																	NO (✓)	
Satisfactory	YES (✓)																	YES (✓)	
Urinary Catheter	NO (✓)																	NO (✓)	
Satisfactory	YES (✓)																	YES (✓)	
TOTAL YELLOW SCORES																		TOTAL YELLOW SCORES	
TOTAL RED SCORES																		TOTAL RED SCORES	
Signature																		Signature	

SPECIALTY ACTION PROTOCOL (SAP) FOR PHYSIOLOGICAL EARLY WARNING SYSTEM (PEWS)

The Scoring System and Action Protocol are designed to help identify patient deterioration and ensure appropriate early intervention.

Staff should use their clinical judgement, and seek advice if they have concerns about any patient, regardless of the score. If staff deviate from this SAP, please ensure reasons are fully documented in case notes.



Case History

- 31 Year old lady
- Para 2
- 2 previous caesarean Sections
- Had an emergency caesarean section at 30 weeks gestation in preterm labour.
- Infant born at 1215 hours.

- PEWS = XXX (recorded on admission to recovery)
- 12.40 hours – temperature 35.0 C.
- Bear Hugger applied to warm patient.

- 12.45 hours- temperature 36C
- 13.05, 13.10 and 13.15 hours, single yellow due to temp of 35.2 gradually rising to 35.8.
- Bear hugger kept in place and patient observed.
- Resolved at 13.20hours, temp 36.0 and remained within normal limits from this point.

Pain & PEWS

- 12.45 -1305: Pain score 2 – 3
- Therefore **single yellow** between 12.45 and 13.05 hours.
- Midwife requested anaesthetist who attended and prescribed intravenous analgesia.
- 1310 Pain score 0-1.
- 13.05 hours the combination of temp 35.2 and pain score of 2 indicate (**double yellow**).
- The Speciality Action Protocol indicates a doctor to see within 30 minutes and inform MIC.

Word



WORD _____

[illegible]

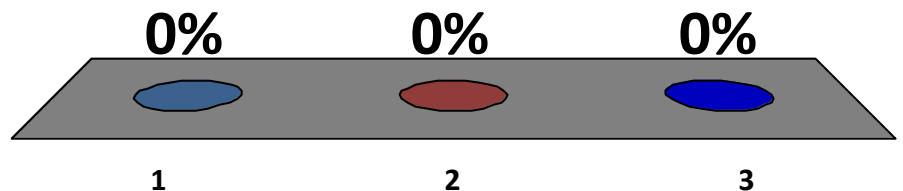
Food pressure Number	130																		130
	120																		120
	110	119									114	115							110
	100		100	110	111	109	108	109	108	107									100
	90																		90
	80																		80
	70																		70
	60																		60
	50																		50

Diastolic blood pressure Number	130																		130
	120																		120
	110																		110
	100																		100
	90																		90
	80																		80
	70	76	66	64	63	58	60	60	59	60	64	58							70
	60																		60
	50																		50
	40																		40

Urine	passed (Y/N)	SRC	SRC	SRC	SRC	SRC	SRC	SRC	SRC	SRC	SRC	SRC							passed (Y/N)
	protein +	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A							protein +
Proteinuria	protein > ++	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A							protein > ++
	Clear / Pink	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A							Clear / Pink
Amniotic fluid	Red / Green	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A							Red / Green
	Minimal	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A							Minimal
A/N PV Bleeding	Moderate / heavy	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A							Moderate / heavy
	Alert	A	A	A	A	A	A	A	A	A	A	A							Alert
NEURO RESPONSE (V)	Voice																		Voice
	Pain																		Pain
Pain score (no.)	Unresponsive																		Unresponsive
	0-1	0-1																	0-1
Lochia	2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3	2-3							2-3
	Normal	N	N	N	N	N	N	N	N	N	N	N							Normal
Looks unwell	Heavy / Fresh																		Heavy / Fresh
	Offensive																		Offensive
Wound satisfactory	NO (V)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓							NO (V)
	YES (V)																		YES (V)
IV infusion site satisfactory	NO (V)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓							NO (V)
	YES (V)																		YES (V)
Drain site satisfactory	NO (V)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A							NO (V)
	YES (V)																		YES (V)
Urinary Catheter satisfactory	NO (V)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓							NO (V)
	YES (V)																		YES (V)
TOTAL YELLOW SCORES		1	1	1	1	1	2	1	1	0	0	0							
TOTAL RED SCORES		0	0	0	0	0	0	0	0	0	0	0							
Signature		gk	gk	gk	us	us	us	us	us	us	us	us							

Doctor to see within 30 minutes and inform MIC.

1. Absolutely necessary
2. Necessary because it is the protocol but “doctor to see” should be downplayed
3. No need to follow protocol at all



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Outcome

- PEWS continued to be recorded as per unit protocol and remained 0-1 from 13.10 hours onwards.
- At 15.00hours the lady was transferred to the postnatal ward - warm and comfortable.

Group Work Session

- What are the key themes arising from the day
- Identify the top three priorities to move forward with PEWS

ACTION!!!!

- Highlight three ~~key learning~~ points from the day which can be taken back to your organisation.