Spinal Surgery Enhanced Recovery Pathway

Patient Label
Name Date of Birth Unit no. CHI

Date of Admission:……..

Date of Surgery:……

Consultant	
Diagnosis	
Procedure	
Intended Post-Operative Pathway	**PICU ☐ Ward 4 HDU ☐ Ward 4 Special Care ☐**
Expected Length of Stay	
Enhanced Recovery Pathway	**Yes ☐ No ☐**
Spinal Liaison Nurse	**Pre-admission assessment carried out Yes ☐ No ☐** ***(if no record a variance)*** ***(refer to TRAK progress notes)***

WEIGHT (kg)			HEIGHT (cm)			ARMSPAN (cm)		
	Initial			***Initial***			***Initial***	

- **Decisions regarding care remains at the discretion of the Clinician. The pathway is not a rigid protocol, but a guide to the *average* progression.**
- **All care should be initialled once completed. (The omission of any entry which has *not* been initialled indicated the necessary care has been omitted).**
- **Patients may vary from the pathway. Where the patient makes slower progress than anticipated, a reason must be sought. These reasons and actions must be documented and recorded as a *variance* in the appropriate section.**
- **Patients who are no longer able to follow the pathway for clinical reasons should revert back to traditional documentation.**
- **All policies and protocols referred to in this ERP can be located on the Scottish National Spine Deformity Service webpage on the NHS Lothian Intranet at: http://intranet.lothian.scot.nhs.uk/Directory/scottishnationalspinedeformityservice/Pages/StandardsforSpineDeformity.aspx**

Variances: All staff to identify & record variances

List of variance types and their code letter (Var. code)

A. Patient / relative/ carer **B. Clinical staff** **C. Hospital system** **D. Community / external**

Date	Description of issue	Reason	Action	Var. Code	Initials
/					

****Please complete pathway using *BLACK* ink****

Spinal Surgery Enhanced Recovery Pathway

Patient Label

Name
Date of Birth
Unit no.
CHI

KEY TO INITIALS OF ALL STAFF COMPLETING THIS ICP					
Print Name	***Designation***	***Initials***	***Signature***	***Contact Number***	***Date***
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					

More signature spaces on back page

Nursing Patient Profile

Patient Label
Name Date of Birth Unit no. CHI

…… / ..... / …….. / 20.....
(day) (date) (month) (year)

Each entry MUST BE ACKNOWLEDGED

Name of parent (s) / Guardian (s) / Next of Kin	
Name of individual with parental responsibility	
Contact details (home phone / mobile)	
Social Details	
Language spoken ***(translator required?)***	
Religion	
School	
Registered dentist	
Social Worker	
Other professionals involved in care	
Community Nurse Involvement Yes ☐ No ☐ ***(If 'YES' please detail)***	
Occupational Therapy ***(on TRAK)***	
Physiotherapy Assessment ***(within ERP)***	
Learning Disability Risk Assessment ***(on TRAK)***	Yes ☐ N/A ☐
Contact with infections / diseases within the last 4 weeks	
MRSA / CPE Risk Completed ***(on TRAK)***	
Immunisations	
Parent accommodation required – Yes ☐ No ☐ ***(please indicate action taken)***	
Discharge planning - Transport arranged for home Yes ☐ No ☐ ***(If 'NO' please indicate action taken)***	
Medication taken at home	
Any known allergies / sensitivities ***(Reaction caused)***	

Patients own medication – Verbal consent given for Use ☐ Destruction ☐ Verbal consent not given ☐

Nurse/Pharmacy signature:..... Print Name:..... Date:.....

Signature: …… Print: ……

Patient Label

Name
Date of Birth
Unit no.
CHI

Nursing Patient Profile

……. / ..... / …….. / 20.....
(day) (date) (month) (year)

Each entry MUST BE ACKNOWLEDGED

Breathing ***(consider asthma, smoker)***	
Communication ***(consider hearing, eyesight, speech, communication aids)***	
Sensory and Motor Disorders ***(consider ADHA, hypercusis, dyspraxia)***	
Sleeping ***(consider usual bedtime, comforter)***	
Elimination ***(consider history of constipation, incontinence)***	Lactulose commenced 3 days pre-operatively Yes ☐ No ☐ Last BO.....
Menstruation ***(pregnancy test required for all females who have commenced menarche)***	Date of LMP.....
Skin **History of acne / eczema or any other skin condition?** Yes ☐ No ☐ ***(If 'YES' seek advice from Consultant)***	
Dietary Normal diet ☐ Special diet ☐ NG Feed ☐ Gastrostomy feed ☐ Post-operative nutrition discussed Yes ☐ **PYMS** completed ***(on TRAK)*** Yes ☐ **PYMS Score**……. **BMI**…… ***Referral to dietician Yes ☐ No ☐*** ***Comments***	
Mobility - freely mobile Yes ☐ No ☐ ***If 'NO' please comment***..... …… **Glamorgan Tool Completed *(on TRAK)*** Yes ☐	

Signature: …… Print: ……

Nursing Patient Profile

Patient Label
Name Date of Birth Unit no. CHI

……. / ..... / ……. / 20.....
(day) (date) (month) (year)

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<u>Anticoagulant – Low molecular weight heparin (LMWH) should be considered in:</u>

- Patients <12 years – serious consideration in major surgery with predicted immobility >48 hours plus previous DVT/PE
- Patients >12 years or peripubertal* - serious consideration in major spine surgery with predicated immobility >48 hours plus one other risk factor (see below)
- ***<u>In spine deformity patients anticoagulant DVT prophylaxis should be delayed until 24 hours postoperatively</u>***
- <u>In **all** cases where thromboprophylaxis is being considered there should be discussion with the lead consultant and the haematology team</u> ****Please refer to the BNFC for dosing guidelines****

<u>Risk Factors for DVT / PE in Children and Young People</u>

All children with

- Central venous lines (especially large lines in small veins such as femoral lines)
- Previous DVT/PE
- Prolonged immobility

Children over 12 years or peripubertal*

- Who are on the oral contraceptive pill
- Who smoke
- With inflammatory conditions (eg inflammatory bowel disease, connective tissue disease)
- Who are pregnant
- Who are obese (BMI > 35)
- With pre-existing thrombophilic conditions including:
    - Antithrombin deficiency
    - Persistent antiphospholipid antibodies
    - Protein C deficiency
    - Protein S deficiency
    - Polycythaemia
- *whichever is the younger

DISCUSSION WITH A CONSULTANT HAEMATOLOGIST IS REQUIRED IF THROMBOPHILIA SCREENING IS PROPOSED

Pneumatic Compression Boots (Flotrons) and TED stockings are used in <u>ALL</u> patients over 12 years or peripubertal* undergoing spinal deformity surgery during the period of immobility

Measurements: Ankle:……cm Calf:……..cm Length:……..cm **Stocking size**…….

TED stockings correct size available: Yes ☐ No ☐

Child / Parent perception of reason for admission

Additional Information

Signature: …… Print: ……

Patient Label

Name
Date of Birth
Unit no.
CHI

Surgical Nurse Practitioner / Doctor Clerk In

……. / ..... / ……. / 20.....
(day) (date) (month) (year)

Each entry MUST BE ACKNOWLEDGED

History of Presenting Complaint

BIRTH HISTORY	
Preterm / Full Term	
SCBU / NICU	
Ventilation / O_2 Therapy	
Chronic Lung Disease	
RESPIRATORY / AIRWAY	
Asthma / Wheeze	
Chest Problems / Smoker	
Apnoeas / OSA / Snorer	
Lung Function Results	**FVC:**..... **FEVi:**.....
Other Airway Problems	
CARDIAC	
Cardiac Problems	
RENAL	
Renal Problems / UTI's	
LIVER	
Liver Problems	
Jaundice	
ENDOCRINE	
Endocrine Condition	
Diabetes or Related Complications	

Signature: …… Print: ……

Surgical Nurse Practitioner / Doctor Clerk In

Patient Label
Name Date of Birth Unit no. CHI

……. / ..... / …….. / 20.....
(day) (date) (month) (year)

Each entry MUST BE ACKNOWLEDGED

NEUROLOGY	
Fits / Faints / Dizzy Spells	
Seizures / Epilepsy	
Previous Head / Neck Injury	
GASTROINTESTINAL	
Gastro-oesophageal Reflux	
Feeding Problems	
Elimination / Bowel Problems	
Abdominal Pain / Nausea / Vomiting	
HAEMATOLOGY	
Prolonged Bleeding	
Anaemia	
Bruises Easily / Clotting Problems	
Sickle Cell	
Thalassaemia	
SPECIFIC CONDITIONS	
CP / ADHD / Syndromes	
Learning Difficulties / Behavioural Issues / Mental Health Issues	
PREVIOUS HISTORY	
Admissions	
GA / Surgery	
Anaesthetic Problems	
RELEVANT FAMILY HISTORY	

Signature: …… Print: ……

Patient Label

Name
Date of Birth
Unit no.
CHI

Surgical Nurse Practitioner / Doctor Clerk In

…… / ..... / …….. / 20.....
(day) (date) (month) (year)

Each entry MUST BE ACKNOWLEDGED

GENERAL APPEARANCE

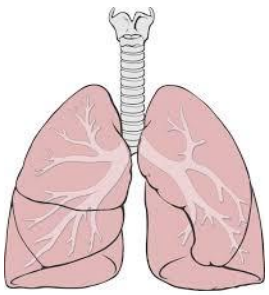
(Pallor / Cyanosis / Jaundice / Lymphadenopathy)

CARDIOVASCULAR

Heart Rate	Rhythm	Blood Pressure
Peripheral Pulses	Heart Sounds	Murmurs

RESPIRATORY

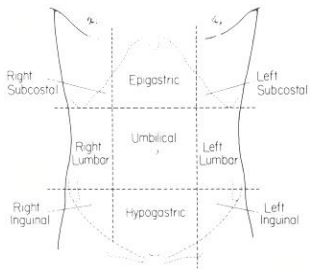
ENT	Trachea	
Percussion	Auscultation	
Respiratory Rate	Expansion	



Right *Left*

ABDOMEN

Tenderness	Organomegally	
Herniae	Bowel Sounds	
Genitalia		



(indicate scars/masses)

CENTRAL NERVOUS SYSTEM

PEARL	Power	Tone
Co-ordination	Sensation	

OTHER INFORMATION

Signature: ……..…… Print: ……..……

Pain Assessment

Patient Label
Name Date of Birth Unit no. CHI

Use on admission, pre-operatively then recommence after discontinuing IV opiates

Adapt questions - to include both the child and family

What experiences of pain has your child had in the past? .....

.....

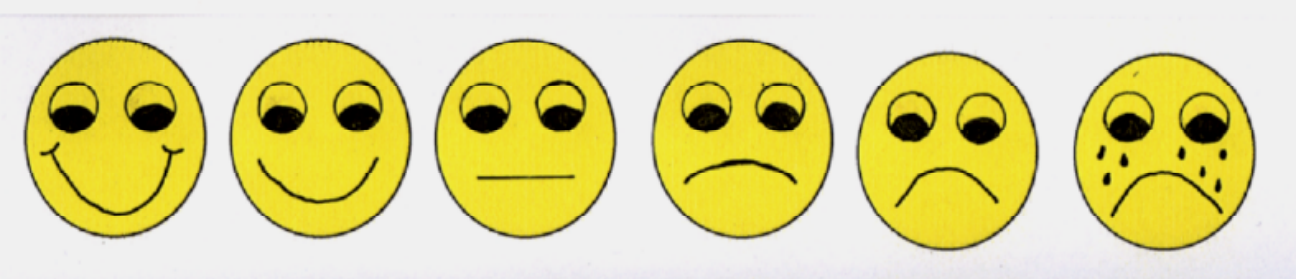
What words / movements / sounds does your child use when they are in pain? .....

.....

What kind of things helps to settle your child when they are in pain? For example, touch / drugs / toys / books / comforters etc.

.....

.....



Faces aged 3 – 18 years ***(Baker and Wong with permission, 1988)***

0____|____|____|____|____|____|____|____|____|____**10**

Age 7 years +

Categories	0	1	2
Face	No particular expression or smile	Occasional grimace or frown, withdrawn, disinterested	Frequent to constant quivering chin, clenched jaw
Legs	Normal position or relaxed	Uneasy, restless, tense	Kicking or legs drawn up
Activity	Lying quietly or relaxed	Squirming, rocking back and forth, tense	Arched, ridged or moving all limbs
Cry	No cry (awake and quiet or asleep)	Moans or whimpers, occasional cry	Crying steadily, screams or sobs continuality
Consolability	Contented and relaxed	Reassured by touch, hugging, talking (distractible)	Difficult to console or comfort

Age 3 months to 3 years ***(FLACC with permission, 1997)***

Pain assessment tool: Explained & understood by: Child: ☐ Parent ☐ Scale used: FLACC ☐ Faces ☐ 0 – 10 ☐

Note: Frequency of pain assessment required should be decided / reviewed by child's nurse

Date	Time	Scale	Score	Action taken	Reassessment time	Comments	Initials

Pain Assessment

Patient Label

Name
Date of Birth
Unit no.
CHI

Date	Time	Scale	Score	Action taken	Reassessment time	Comments	Initials

Pre-Operative Checklist

Patient Label
Name Date of Birth Unit no. CHI

…… / ..... / …….. / 20.....
(day) (date) (month) (year)

Each entry MUST BE ACKNOWLEDGED

Clinical Heading	Goals and tasks	Initial
Nursing	Admission to ward discussed Nursing documentation completed Baseline PEWS completed	
Physio	All **PHYSIOTHERAPY** notes can be found on dedicated physiotherapy sheets within the pathway	
Pain Management / Anaesthetics	PCA ☐ IV morphine infusion ☐ Prefers tablets ☐ liquid ☐ Pre-emptive Gabapentin required (anterior correction, costoplasty, chronic pain) Yes ☐ No ☐ Pre-med prescribed Yes ☐ No ☐	
Medical Staff / Nursing Staff	Clerked in by FY1 / FY2 / SNP	
	Consent obtained by surgeon	
	All patients require the following spinal X-rays (*if obtained > 3 months ago*): PA Lateral Whole Spine Ordered Yes ☐ Completed Yes ☐ Whole Spine Mobile Intensifier Ordered for intra-op Yes ☐	
	All patients need the following bloods: FBC & U&E's, LFTs, Clotting Screen, Glucose Obtained ☐ Cross Match – (**Check if 2nd sample required as per BTS Guidelines**) ***AIS patients require 1 unit of blood. Other diagnosis review number of units of blood to be ordered with anaesthetist*** http://intranet.lothian.scot.nhs.uk/Directory/ChildrensServices/PoliciesGuidelines/ClinicalPolicies/Pages/Surgicaldirectorate.aspx Any action required Yes ☐ No ☐ ***Action taken:***	**RESULTS** **FBC** Hb WCC Neut Lym **Co-Ag** Plat APTT PT Fibrinogen **U&E** Urea Na K Cl Creat **OTHER** Gluc XM Units x .....
	All patients require photographs Obtained Yes ☐	

MEDICAL / NURSING notes for pre-operative care

Paediatric Physiotherapy Service - Pre-Operative Assessment

Patient Label

Name
Date of Birth
Unit no.
CHI

…… / ..... / …….. / 20.....
(day) (date) (month) (year)

Signature…… Print…… Contact Details……

SUBJECTIVE ASSESSMENT	
Date / Time / Consent:	
Presenting Complaint:	Type of Scoliosis: Planned procedure and date:
History of Presenting Complaint:	When noticed / diagnosed: Symptoms (pain/numbness): Management to date (Bracing / PT): Relevant investigations (x-rays / LFTs):
Past Medical History:	
Drug History:	
Social History: (home setup / stairs)	***(See TRAK for full pre-operative planning document for Neuromuscular / Complex Patients)***
OBJECTIVE ASSESSMENT:	
THRA **SHANARRI**	1a ☐, 1b ☐, 1c ☐, 2a☐, 2b☐, 3a☐, 3b ☐, 4a☐, 4b ☐, 5 ☐, 6☐, 7a ☐, 9☐ considered Safe ☐ Healthy ☐ Active ☐ Nurtured ☐ Achieving ☐ Respected ☐ Responsible ☐ Included ☐
Observations and Examination:	Position/Posture (include chin, shoulders, hips where applicable):
Respiratory: (Include PCF where relevant)	Auscultation: Cough/Sputum:
Musculoskeletal:	Cervical spine ROM:

Paediatric Physiotherapy Service - Pre-Operative Assessment

Patient Label
Name Date of Birth Unit no. CHI

…….. / ..... / …….. / 20.....
(day) (date) (month) (year)

Signature…… Print…… Contact Details……

LEFT				**RIGHT**		
ROM	**POWER**	**SENS**	**Spinal Cord Level/ Key Muscles**	**ROM**	**POWER**	**SENS**
			C5 – Elbow Flexors			
			C6 – Wrist Extensors			
			C7 – Elbow Extensors			
			C8 – Finger Flexors			
			T1 – Finger Abductors			
			L2 – Hip Flexion			
			L3 – Knee Extension			
			L4 – Ankle Dorsi-flexion			
			L5 – Great Toe Extension			
			S1 – Ankle Plantar Flexion			
			S2 – Knee Flex			

0 / 5 No movement
1 / 5 Palpable or visible contraction but no movement
2 / 5 Movement with gravity eliminated
3 / 5 Movement against gravity only
4 / 5 Movement against gravity with some resistance
5 / 5 Movement against gravity with full resistance.
MRC (1976).

Transfers / Mobility / Walking Status:	
TREATMENT ADVICE	
Treatment / Advice:	Explained role of PT Yes ☐ No ☐ Post-operative plan: *Explained* *Demonstrated* ● Chest PT Yes ☐ No ☐ Yes ☐ No ☐ ● Bed exercises Yes ☐ No ☐ Yes ☐ No ☐ ● Progression of PT Yes ☐ No ☐ ● Importance of early mobilisation Yes ☐ No ☐
Plan:	

Patient Label

Name
Date of Birth
Unit no.
CHI

Day of Surgery

…….. / ..... / …….. / 20.....
(day) (date) (month) (year)

Each entry MUST BE ACKNOWLEDGED

Clinical Heading	Goals and tasks	Initial
Nursing	Baseline observations rechecked Patient wearing two name bands - one name band **MUST** be round the patient's ankle Premedication administered TED stockings if appropriate to accompany patient	

THEATRE CHECKLIST CHECKED IMMEDIATLEY PRIOR TO LEAVING WARD

MEDICAL / NURSING notes for pre-operative care

Variances: All staff to identify & record variances

List of variance types and their code letter (Var. code)

A. Patient / relative/ carer **B. Clinical staff** **C. Hospital system** **D. Community / external**

Date	Description of issue	Reason	Action	Var. Code	Initials
/					
/					

Recovery

Patient Label
Name Date of Birth Unit no. CHI

…….. / ..... / …….. / 20.....
(day) (date) (month) (year)

Each entry MUST BE ACKNOWLEDGED

TIME OF ARRIVAL IN RECOVERY ….. : …..

Clinical Heading	Goals and tasks	Initial
Oxygen	Facial O_2 until awake. O_2 saturations maintained >92% Facial O_2 required on discharge Yes ☐ No ☐ O_2..... litres: facemask ☐ nasal cannula ☐	
Observations	PEWS recorded as per recovery protocol	
Circulation	IV fluids running and documented hourly Yes ☐ IV fluid bolus required Yes ☐ No ☐ *Fluid type..... mls.....* *Fluid type..... mls.....*	
IV access	As documented on anaesthetic chart **PVC Bundle Completed** Yes ☐ **CVC Bundle Completed** Yes ☐ N/A ☐ ***(on TRAK)***	
Pain Management / Medication	PCA / morphine infusion commenced Yes ☐ Enhanced Recovery Analgesia Pathway completed Yes ☐ Pain scoring documented Yes ☐	
Urine	Urine output documented Yes ☐ ..... *mls / kg*	
Drain(s)	Wound drain Yes ☐ No ☐ Losses documented Yes ☐ N/A ☐ Chest drain Yes ☐ No ☐ Unclamped, patent and secure Yes ☐ N/A ☐ Chest drain chart completed Yes ☐ N/A ☐ Peripheral catheter infusion charted Yes ☐ N/A ☐	
Wound / Skin Care	Dressing dry and intact Yes ☐ No ☐ Pressure areas checked and position regularly	
Neurology	Neurological checks according to pg 18	
Anti Embolism Therapy	Applied if required according to pg 5 ****Prior to discharge the patient must be wearing 2 name bands****	

Issues for consideration

- Pain well managed prior to discharge to PICU / HDU / Ward 4
- Antibiotics prescribed
- All drains patent and lines unclamped

NURSING notes for recovery care

Recovery

Patient Label

Name
Date of Birth
Unit no.
CHI

……. / ..... / ……. / 20.....
(day) (date) (month) (year)

OPERATION NOTES

Approach: Anterior ☐ Posterior ☐ Combined ☐

Instrumentation Levels:

Blood Loss: _____mls (_____%) Cell Salvage:_____mls (_____%)

Local Anaesthetic Wound Block Yes ☐ No ☐ Amount given……

Intercostal Block: Yes ☐ No ☐

Continuous Peripheral Nerve Infusion: Yes ☐ No ☐

Rate…….. Strength of Bupivacaine……..

Wound Drain: Yes ☐ No ☐

Chest Drain: Yes ☐ No ☐

IOM: Yes ☐ No ☐ *Notes:*

Spinal jacket or Brace Required: Yes ☐ No ☐

Any limitation to full mobilisation: Yes ☐ No ☐ *Notes:*

Consultant Signature:……

NEUROLOGY

RIGHT	Spinal cord level / Key muscles	LEFT
	L2 **Hip Flexion**	
	L3 **Knee extension**	
	L4 **Ankle dorsiflexion**	
	L5 **Toe extension**	
	S1 **Ankle plantar flexion**	

Able to feel urinary catheter: Yes ☐ No ☐

Patients who are being discharged to ward 4 HDU please ensure the additional checklist on page 17 has been completed prior to discharge from recovery

Recovery

Patient Label
Name Date of Birth Unit no. CHI

……. / ..... / …….. / 20.....
(day) (date) (month) (year)

Each entry MUST BE ACKNOWLEDGED

***** Criteria for ward 4 high dependency post-operative care *****

Patients undergoing posterior spinal correction and fusion without significant medical co-morbidities
Patients with major medical co-morbidities and those undergoing costoplasty **or** anterior spinal fusion surgery require initial PICU care

ADDITIONAL CHECKLIST FOR POSTERIOR SPINAL SURGERY PATIENTS RETURNING TO WARD 4 HDU

RECOVERY STAFF TO COMLETE	**PEWS** chart commenced ☐ Recovery discharge criteria met (or variances documented) ☐ A 90 minute **minimum** stay in theatre recovery complete ☐ Anaesthetist's checklist completed ☐ Escalation plan completed with contact details ☐	Time of arrival in recovery …… : …… Time of discharge from recovery …… : ……
ANAESTHETIST TO COMPLETE	Drug chart completed as per Enhanced Recovery Pain Pathway ☐ Post op blood results (FBC, Co-ag, U+E, ABG) reviewed by anaesthetist and acted on, as appropriate before arterial line removed ☐ Any blood or fluid bolus completed and the patient reassessed ☐ Physiological criteria for further fluid bolus, and suggested prescription clearly documented ☐ Blood transfusion trigger clearly documented ☐ Individual variances to parameters **clearly** documented on PEWS ☐ SBAR handover of patient to ward staff nurse, surgical nurse practitioner and FY doctor ☐ Patient is ready for discharge from recovery, and are still suitable for ward nursing care ☐	**Hb..... Na..... K..... Plat.....** **APPT..... PT..... FIB.....** **Anaesthetist Signature:** …… **Print:** ……
ESCALATION PLAN	**Clinical issues: contact:** On-call Spinal Consultant Via Switchboard Surgical Nurse Practitioners bleep **9105** Clinical Co-ordinator bleep **9278** **Pain management or nausea / vomiting issues contact:** Pain Nurse Specialist bleep **9240** On-call anaesthetist bleep **9152**	**On-call anaesthetic consultant (1st post op night only):** Dr _____ Tel: _____ **If PEWS score is 5 or greater, consider PET call (2222) if unable to get senior clinical review.**

Patient Label

Name
Date of Birth
Unit no.
CHI

Spinal Monitoring Chart

****PLEASE RECORD HOURLY FOR THE FIRST 8 HOURS THEN 2 - 4 HOURLY UNTIL MOBILE****

Muscle Strength Grading Scale	
0 / 5	No movement
1 / 5	Palpable or visible contraction but no movement
2 / 5	Movement with gravity eliminated
3 / 5	Movement against gravity only
4 / 5	Movement against gravity with some resistance
5 / 5	Movement against gravity with full resistance

Spinal Cord Level	Key Muscles
L2	Hip flexors
L3	Knee extensors
L4	Ankle dorsiflexors
L5	Toe extensors
S1	Ankle plantar flexors

Date / Time	Motor Function 0 - 5		Pulse		Fine Touch Sensation		Temperature		Colour		Initial
	L	R	L	R	L	R	L	R	L	R	

Day of Surgery (Day 0)

Patient Label
Name Date of Birth Unit no. CHI

……. / ..... / ……. / 20.....
(day) (date) (month) (year)

Each entry MUST BE ACKNOWLEDGED

Time of arrival in HDU / ITU / Ward …. : …. (Transfer to CIS if required)

Clinical Heading	Goals and tasks	Initial	
		Day	Night
Oxygen	O_2 saturations maintained >92% Facial O_2 required Yes ☐ No ☐ Face Mask ☐ Nasal Cannula ☐ O_2 ……litres		
Observations	***(HDU Level Care)*** Blood pressure / Pulse / Respirations / O_2 saturations ½ hourly, temperature 4 hourly on PEWS chart ***(Special Care Level)*** Pulse / Respirations / O_2 saturations ½ hourly, blood pressure 1-2 hourly, temperature 4 hourly on PEWS chart		
Circulation	IV fluid bolus (s) required Yes ☐ No ☐ **Fluid type..... mls..... Fluid type..... mls.....** **Fluid type..... mls.....**		
IV access	**PVC Bundle Updated** Yes ☐ **CVC Bundle Updated** Yes ☐ N/A ☐ ***(on TRAK)***		
Pain Management / Medicine	Enhanced Recovery Analgesia Plan completed Yes ☐ Fentanyl patch applied at **22.00** and **Monitoring Chart Completed** Yes ☐ N/A ☐ Pain scoring documented on continuous infusion / PCA paperwork		
Urine output	Urine output monitored and maintained >0.5mls / kg / hour Yes ☐ No ☐		
Drain(s)	Wound drain Yes ☐ No ☐ Losses documented Yes ☐ N/A ☐ Chest drain Yes ☐ No ☐ Unclamped patent and secure Yes ☐ N/A ☐ Chest drain chart completed Yes ☐ N/A ☐ Peripheral nerve infusion charted Yes ☐ N/A ☐		
Wound / Skin care	Dressing dry & intact Yes ☐ No ☐ Pressure areas checked and position changed regularly Yes ☐		
Neurology	Neurological checks according to pg 18		
Anti Embolism Therapy	TED Stockings and Pneumatic Compression Boots in situ Yes ☐ No ☐ ****ALL PATIENTS REQUIRE**** **FBC ☐ U&E's ☐ LFTs ☐ Co-ag ☐ to be obtained by night staff SN / FY**		
Mobility	As per surgeons instructions **Glamorgan Tool updated *(on TRAK)*** Yes ☐		
Nutrition	Tolerating diet and fluids Yes ☐		

Issues for consideration

- Senior review if 3 or more fluid boluses are required
- Pain well managed

Variances: All staff to identify & record variances

List of variance types and their code letter (Var. code)

A. Patient / relative/ carer B. Clinical staff C. Hospital system D. Community / external

Date	Description of issue	Reason	Action	Var. Code	Initials
/					
/					

****COMMUNITY NURSE REFERRAL TO BE COMMENCED****

Patient Label

Name
Date of Birth
Unit no.
CHI

Day of Surgery (Day 0)

……. / ..... / …….. / 20.....
(day) (date) (month) (year)

MEDICAL notes for day of surgery

FOR PATIENTS REQUIRING HDU LEVEL CARE (IF PATIENT HAS REQUIRED MORE THAN 3 FLUID BOLUSES OR REQUIRED BLOOD TRANSFUSION PLEASE DISCUSS WITH PICU CONSULTANT AND CONSIDER ESCALATION TO CRITICAL CARE)

NURSING notes for day of surgery

Post-operative Day 1

Patient Label
Name Date of Birth Unit no. CHI

…… / ..... / …….. / 20.....
(day) (date) (month) (year)

Each entry MUST BE ACKNOWLEDGED

Clinical Heading	Goals and tasks	Initial	
		Day	Night
Oxygen	O_2 saturations maintained >92% Facial O_2 required Yes ☐ No ☐ Face mask ☐ Nasal Cannula ☐ O_2 …… Litres		
Observations	***(HDU Level Care)*** Pulse / Respirations / O_2 saturations / Blood pressure ½ hourly / temperature 4 hourly on PEWS chart ***(Special Care Level)*** Pulse / Respirations / O_2 saturations ½ hourly / blood pressure 1 hourly ***(whilst on morphine)*** / temperature 4 hourly on PEWS chart ***Re-grade PEWS once stepped down from HDU level to S/C level or from S/C level to ward level as clinical condition allows***		
Circulation	Patient tolerating oral fluids Yes ☐ Fluid balance documented Yes ☐ IV fluids discontinued at **09.00** Yes ☐ No ☐		
IV access	**PVC Bundle Updated** Yes ☐ **CVC Bundle Updated** Yes ☐ N/A ☐ ***(on TRAK)***		
Pain management	Medication prescribed as per Enhanced Recovery Analgesia Plan Yes ☐ Morphine / PCA discontinued at **09.00** Yes ☐ Pain scoring documented on pg 9/10 **Fentanyl Monitoring Chart updated** Yes ☐ N/A ☐ Parents / Patient happy with pain management Yes ☐ No ☐		
Urine Output	Urine output assessment completed by SNP / FY Yes ☐ Catheter removed at **12.00** Yes ☐ Passed urine post removal Yes ☐ If **NO** refer to pg 23/24		
Drain(s)	Wound drain Yes ☐ No ☐ Losses documented on fluid balance chart Yes ☐ N/A ☐ Chest drain Yes ☐ No ☐ Losses documented on chest drain chart Yes ☐ N/A ☐ PNC Yes ☐ No ☐ PNC observation chart completed Yes ☐ N/A ☐		
Wound / Skin care	Dressing dry & intact Yes ☐ No ☐ Pressure areas checked and position changed 2 hourly Yes ☐		
Bowels	Commence laxatives at **08.00** Yes ☐		
Neurology	Neurological checks according to neurological chart guidelines pg 18		
Anti Embolism Therapy	TED stockings and Pneumatic Compression Boots is situ Yes ☐ No ☐		
Mobility	**Glamorgan Tool Updated *(on TRAK)*** Yes ☐ Aim to sit in chair Yes ☐		
Nutrition	Encourage with diet and fluids Aiming for >1000ml over the day		

Issues for consideration

- Pain well managed
- Patient well hydrated – Consider need for IV Fluids
- Passed urine post removal of catheter – if not consider bladder scanner and review

If Blood Transfusion required Documentation for Transfusion of Blood Components Commenced

****COMMUNITY NURSE REFERRAL TO BE COMMENCED / UPDATED****

Patient Label

Name
Date of Birth
Unit no.
CHI

Post-operative Day 1

…….. / ..... / …….. / 20.....
(day) (date) (month) (year)

CONSULTANT notes for post-operative day 1

Bowel Sounds Yes ☐ No ☐

Repeat bloods required Yes ☐ No ☐

NEUROLOGY

RIGHT	Spinal cord level / Key muscles	LEFT
	L2 Hip Flexion	
	L3 Knee extension	
	L4 Ankle dorsiflexion	
	L5 Toe extension	
	S1 Ankle plantar flexion	

Consultant Signature:.....

Able to feel urinary catheter Yes ☐ No ☐

SNP / FY1 / FY2 URINE OUTPUT ASSESSMENT		Initial
Urine Output 08.00 - 12.00	.....mls / kg	
Tolerating diet and fluids	Yes ☐ No ☐	
Significant vomiting	Yes ☐ No ☐	
Mobilised to chair at least once	Yes ☐ No ☐	
Hb >8	Yes ☐ No ☐	
Catheter for removal	Yes ☐ No ☐	

BLOOD RESULTS DAY 1

U+Es		FBC		Co-Ag	
Urea		Hb		Plat	
Na		WCC		APPT	
K		Neutro		PT	
Cl		Lymph		Fibrin	
Creat				**Initial**	

MEDICAL notes for post-operative day 1

NURSING notes for post-operative day 1

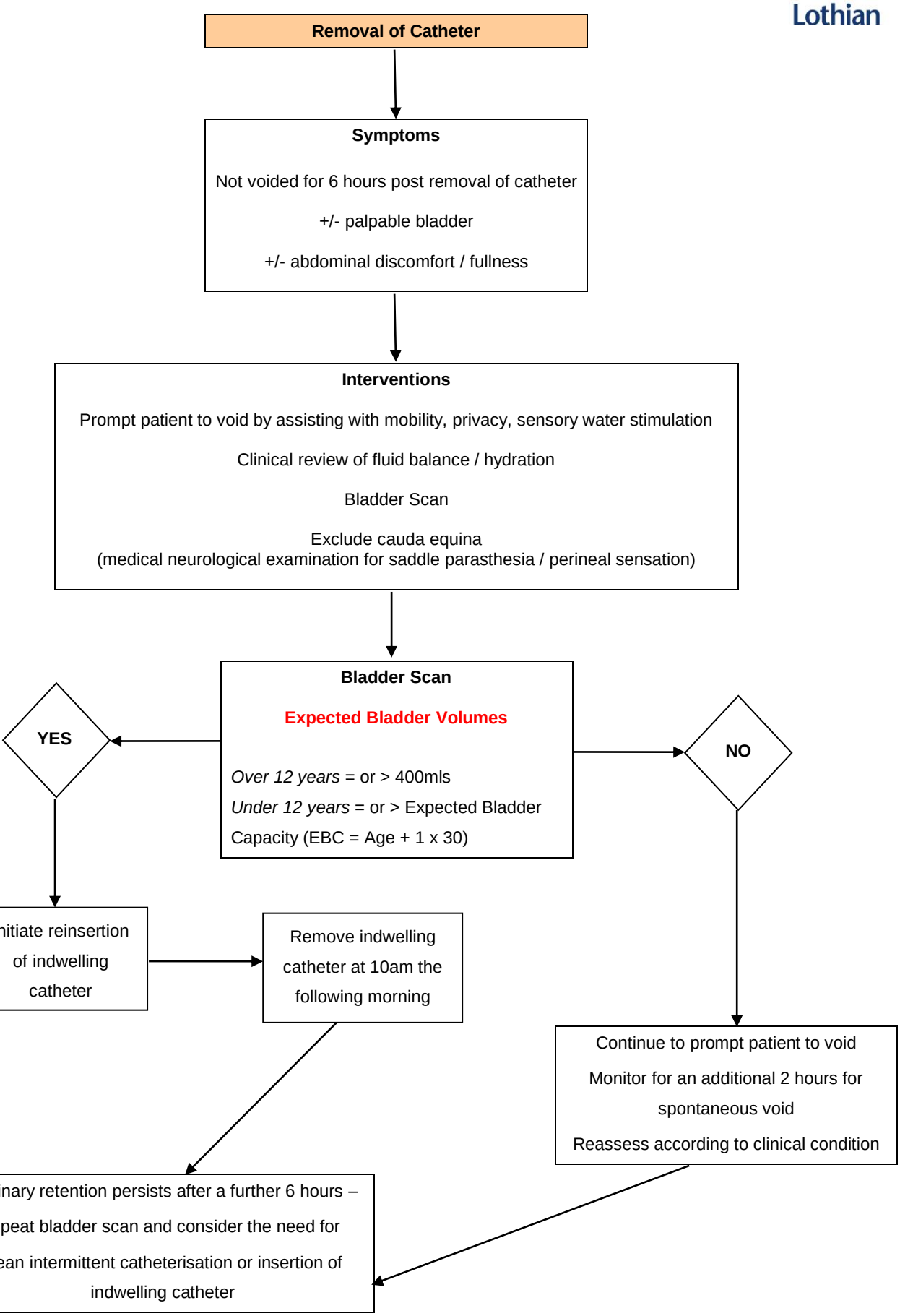
Variances: All staff to identify & record variances

List of variance types and their code letter (Var. code)

A. Patient / relative/ carer **B. Clinical staff** **C. Hospital system** **D. Community / external**

Date	Description of issue	Reason	Action	Var. Code	Initials
/					
/					

Standard Clinical Pathway for Post-operative Urinary Retention following Posterior Spinal Fusion



Standard Clinical Pathway for Post-operative Urinary Retention following Posterior Spinal Fusion

Patient Label
Name Date of Birth Unit no. CHI

If patient has not passed urine for 6 hours post the removal of catheter please complete the following. Consider review by Surgical Nurse Practitioner or FY1/2.

If retention persists consider need for review by Spinal Consultant

Date / Time	Oral Intake	Output	Overall Balance	Expected Bladder Volume	Bladder Scanner Volume	Comments	Signature

NURSING / MEDICAL notes for post-operative urinary retention

Paediatric Physiotherapy Service - Post-operative Assessment

Patient Label
Name Date of Birth Unit no. CHI

…… / ..... / …….. / 20.....
(day) (date) (month) (year)

Signature…… Print…… Contact Details……

SUBJECTIVE ASSESSMENT:	
Date / Time / Consent:	
Surgical procedure & date: **Post-operative instructions:** **Other information:**	
OBJECTIVE ASSESSMENT:	
Therapy Handling Risk Assessment:	1a ☐, 1b ☐, 1c ☐, 2a☐, 2b☐, 3a☐, 3b ☐, 4a☐, 4b ☐, 5 ☐, 6☐, 7a ☐, 9☐ considered
Position:	
Respiratory Status:	**Ventilation:** Self ventilating: Yes ☐ RR…… SpO_2….. **Breathing Pattern:** **Auscultation:** **Palpation:** **Cough:** Yes ☐ No ☐ Strength: Strong ☐ Moderate ☐ Weak ☐ N/A ☐ Effective: Yes ☐ No ☐ Not Assessed ☐ **Sputum Comment:**
Cardiovascular Status:	**DOCUMENTED ON PEWS CHART**
Lines / Drains:	
Medications:	
Musculoskeletal:	**Cervical spine ROM:** Passive ☐ Auto Assisted ☐ Active ☐ **Cervical spine:** Rotation Side flexion Flexion **Upper limb:** Shoulder elevation through flex **Lower limb:** **Comments:**

Paediatric Physiotherapy Service - Post-operative Assessment

Patient Label

Name
Date of Birth
Unit no.
CHI

…… / ..... / …….. / 20.....
(day) (date) (month) (year)

Signature…… Print…… Contact Details……

LEFT				RIGHT		
ROM	**POWER**	**SENS**	**Spinal Cord Level/ Key Muscles**	**ROM**	**POWER**	**SENS**
			C5 – Elbow Flexors			
			C6 – Wrist Extensors			
			C7 – Elbow Extensors			
			C8 – Finger Flexors			
			T1 – Finger Abductors			
			L2 – Hip Flexion			
			L3 – Knee Extension			
			L4 – Ankle Dorsi-flexion			
			L5 – Great Toe Extension			
			S1 – Ankle Plantar Flexion			
			S2 – Knee Flex			

PHYSIOTHERAPY POST-OPERATIVE TREATMENT / ADVICE	
Chest PT:	
Exercises:	
Bed Mobility / Transfers / Walking Status / Mobility: (if applicable)	
Any additional Rx:	
ANALYSIS:	
PLAN:	

CARE PLAN	**PROBLEM LIST**	**GOALS**	**PLAN**

Paediatric Physiotherapy Service

Patient Label
Name Date of Birth Unit no. CHI

…….. / ..... / …….. / 20.....
(day) (date) (month) (year)

Signature…… Print…… Contact Details……

PHYSIOTHERAPY notes for post-operative day 1

Post-operative Day 2

Patient Label
Name Date of Birth Unit no. CHI

……. / ..... / ……. / 20.....
(day) (date) (month) (year)

Each entry MUST BE ACKNOWLEDGED

Clinical Heading	Goals and tasks	Initial	
		Day	Night
Observations	PEWS recorded and re-graded appropriately as condition allows		
Circulation	Adequate oral intake Yes ☐ No ☐ IV fluids required Yes ☐ No ☐		
IV access	**PVC Bundle Updated** Yes ☐ **CVC Bundle Updated** Yes ☐ N/A ☐ ***(on TRAK)*** IV access for removal Yes ☐ No ☐ *Review all IV access*		
Pain Management	Medication prescribed and given as per Enhanced Recovery Analgesia Plan Yes ☐ **Fentanyl Patch Monitoring Chart updated** Yes ☐ N/A ☐ Pain scoring documented on pg 9/10 Parents / Patient happy with pain management Yes ☐ No ☐		
Urine output	Passing urine freely Yes ☐ If urinary catheter remains *insitu* review need for ongoing IV fluids		
Drain(s)	Wound drain Yes ☐ No ☐ Wound drain for removal Yes ☐ No ☐ N/A ☐ Chest drain Yes ☐ No ☐ Chest drain for removal Yes ☐ No ☐ N/A ☐ Peripheral nerve infusion to be discontinued Yes ☐ No ☐ N/A ☐		
Wound / Skin Care	Dressing dry and intact Yes ☐ No ☐		
Bowels	Bowels open Yes ☐ No ☐ Sodium Picosulfate discontinued Yes ☐ No ☐		
Anti-Embolism Therapy	Remove if mobile Yes ☐		
Mobility	**Glamorgan Tool Updated *(on TRAK)*** Yes ☐ Mobilise with assistance Yes ☐		
Nutrition	Encourage diet and fluids ***Consider offering oral supplemental drinks***		

Issues for consideration

- Pain well managed
- Diet and fluid intake adequate
- Encourage mobility

If Blood Transfusion required Documentation for Transfusion of Blood Components Commenced

NURSING notes for post-operative day 2

****COMMUNITY NURSE REFERRAL TO BE COMMENCED / UPDATED ****

Post-operative Day 2

Patient Label
Name Date of Birth Unit no. CHI

…… / ..... / …….. / 20.....
(day) (date) (month) (year)

CONSULTANT notes for post-operative day 2

Anterior fusion: Chest Drain for removal Yes ☐ No ☐ Discontinue PNC Yes ☐ No ☐ Chest X-ray ordered Yes ☐ N/A ☐

Spinal Jacket or brace required Yes ☐ No ☐

Consultant Signature:……

MEDICAL notes for post-operative day 2

Variances: All staff to identify & record variances

List of variance types and their code letter (Var. code)

A. Patient / relative / carer **B. Clinical staff** **C. Hospital system** **D. Community / external**

Date	Description of issue	Reason	Action	Var. Code	Initials
/					
/					

Patient Label

Name
Date of Birth
Unit no.
CHI

Paediatric Physiotherapy Service

……. / ..... / ……. / 20.....
(day) (date) (month) (year)

Signature…… Print…… Contact Details……

PHYSIOTHERAPY notes for post-operative day 2

Post-operative Day 3

Patient Label
Name Date of Birth Unit no. CHI

…… / ..... / …….. / 20.....
(day) (date) (month) (year)

Each entry MUST BE ACKNOWLEDGED

Clinical Heading	Goals and tasks	Initial	
		Day	Night
Observations	PEWS regraded a clinical condition allows		
IV access	**PVC Bundle Updated** Yes ☐ **CVC Bundle Updated** Yes ☐ N/A ☐ ***(on TRAK)*** IV access removed Yes ☐ No ☐		
Pain Management	Medication prescribed and given as per Enhanced Recovery Analgesia Plan Yes ☐ **Fentanyl Monitoring Chart Updated** Yes ☐ N/A ☐ Pain scoring documented on pg 9/10 Parents / Patient happy with pain management Yes ☐ No ☐		
Drain	Wound drain Yes ☐ No ☐ Wound drain for removal Yes ☐ No ☐ N/A ☐ Chest drain Yes ☐ No ☐ Chest drain for removal Yes ☐ No ☐ N/A ☐		
Wound / skin care	Wound dressing removed if patient showered Yes ☐ No ☐ Wound intact Yes ☐ No ☐		
Bowels	Bowels opened Yes ☐ No ☐ Sodium Picosulfate discontinued Yes ☐ No ☐		
Mobility	**Glamorgan Tool updated *(on TRAK)*** Yes ☐ Encourage independent mobility		
Nutrition	Encourage with diet and fluids ***Consider offering oral supplemental drinks*** **Update PYMS Chart *(on TRAK)*** Yes ☐ No ☐ ***Consider dietician referral***		
Discharge	Commence pre-discharge checklist on pg 37		

Issues for consideration

- Diet and fluid intake adequate
- Encourage mobility
- Shower

Consider commencing discharge script

NURSING notes for post-operative day 3

Variances: All staff to identify & record variances

List of variance types and their code letter (Var. code)

A. Patient / relative / carer **B. Clinical staff** **C. Hospital system** **D. Community / external**

Date	Description of issue	Reason	Action	Var. Code	Initials
/					
/					

****COMMUNITY NURSE REFERRAL TO BE UPDATED ****

Patient Label

Name
Date of Birth
Unit no.
CHI

Post-operative Day 3

……. / ..... / ……. / 20.....
(day) (date) (month) (year)

CONSULTANT notes for post-operative day 3

Anterior fusion: Chest Drain for removal Yes ☐ No ☐ Discontinue PNC Yes ☐ No ☐ Chest X-ray ordered Yes ☐ N/A ☐

Consultant Signature:……

MEDICAL notes for post-operative day 3

****COMMENCE IMMEDIATE DISCHARGE LETTER** (SEE PG 37 FOR GUIDANCE)**

PHYSIOTHERAPY notes for post-operative day 3

Post-operative Day 4

Patient Label
Name Date of Birth Unit no. CHI

…… / ..... / …….. / 20.....
(day) (date) (month) (year)

Each entry MUST BE ACKNOWLEDGED

Clinical Heading	Goals and tasks	Initial	
		Day	Night
Observations	PEWS regraded a clinical condition allows		
IV access	**PVC Bundle Updated** Yes ☐ N/A ☐ **CVC Bundle Updated** Yes ☐ N/A ☐ ***(on TRAK)*** IV access remains Yes ☐ No ☐		
Pain Management	Medication prescribed and given as per Enhanced Recovery Analgesia Plan Yes ☐ **Fentanyl Monitoring Chart Updated** Yes ☐ N/A ☐ Pain scoring documented on pg 9/10 Parents / Patient happy with pain management Yes ☐ No ☐		
Wound / skin care	Wound dry and intact Yes ☐ Showered Yes ☐ No ☐		
Bowels	Bowels opened Yes ☐ No ☐ Sodium Picosulfate discontinued Yes ☐ No ☐		
Mobility	**Glamorgan Tool Updated *(on TRAK)*** Yes ☐ Encourage independent mobility and stairs		
Nutrition	Encourage with diet and fluids - ***Consider offering oral supplemental drinks***		
Discharge	Commence pre-discharge checklist on pg 37		

Issues for consideration

- Post-operative X-ray obtained
- Encourage mobility encouraged to leave ward for a walk
- Re-check transport arrangements

NURSING notes for post-operative day 4

Variances: All staff to identify & record variances

List of variance types and their code letter (Var. code)

A. Patient / relative / carer B. Clinical staff C. Hospital system D. Community / external

Date	Description of issue	Reason	Action	Va.r Code	Initials
/					
/					

****COMMUNITY NURSE REFERRAL TO BE UPDATED ****

Patient Label

Name
Date of Birth
Unit no.
CHI

Post-operative Day 4

……. / ..... / ……. / 20.....
(day) (date) (month) (year)

CONSULTANT notes for post-operative day 4

Consultant Signature:……

MEDICAL notes for post-operative day 4

COMPLETE IMMEDIATE DISCHARGE LETTER AND SEND TO PHARMACY **(SEE PG 37 FOR GUIDANCE)**

PHYSIOTHERAPY notes for post-operative day 4

Post-operative Day 5

Patient Label
Name Date of Birth Unit no. CHI

…… / ..... / …….. / 20.....
(day) (date) (month) (year)

Each entry MUST BE ACKNOWLEDGED

Clinical Heading	Goals and tasks	Initial	
		Day	Night
Observations	PEWS regraded a clinical condition allows		
Pain Management	Medication prescribed and given as per Enhanced Recovery Analgesia Plan Yes ☐ **Fentanyl Monitoring Chart updated** Yes ☐ N/A ☐ Pain scoring documented on pg 9/10 Parents / Patient happy with pain management Yes ☐ No ☐		
Wound / skin care	Wound dry and intact Yes ☐		
Bowels	Bowels opened Yes ☐ No ☐ ***Consider phosphate enema***		
Mobility	**Glamorgan Tool Updated *(on TRAK)*** Yes ☐ Encourage independent mobility Yes ☐		
Nutrition	Encourage with diet and fluids ***Consider offering oral supplemental drinks*** **Update PYMS Chart *(on TRAK)*** Yes ☐ No ☐ ***Consider dietician referral***		
Discharge	Completed pre-discharge checklist on pg 37		

Issues for consideration

- Order discharge medication
- Re-check transport arrangements
- Community nurse referral finalised

NURSING notes for post-operative day 5

Variances: All staff to identify & record variances

List of variance types and their code letter (Var. code)

A. Patient / relative / carer **B. Clinical staff** **C. Hospital system** **D. Community / external**

Date	Description of issue	Reason	Action	Var. Code	Initials
/					
/					

****COMMUNITY NURSE REFERRAL TO BE FINALISED****

Patient Label

Name
Date of Birth
Unit no.
CHI

Post-operative Day 5

…….. / ..... / …….. / 20.....
(day) (date) (month) (year)

CONSULTANT notes for post-operative day 5

Consultant Signature:……

MEDICAL notes for post-operative day 5

PHYSIOTHERAPY notes for post-operative day 5

Pre Discharge Day Checklist

Patient Label
Name Date of Birth Unit no. CHI

…… / ..... / …….. / 20.....
(day) (date) (month) (year)

Each entry MUST BE ACKNOWLEDGED

Clinical Heading	Goals and Tasks	Initial
Wound	Checked prior to discharge Yes ☐ Describe……	
Bowels	Bowels opened prior to discharge Yes ☐ No ☐	
Medication	Fentanyl Patch Removed Yes ☐ No ☐ **Fentanyl Monitoring Chart updated** Yes ☐ ***(If discharged prior to day 5 – analgesia to remain as Enhanced Recovery Pathway and Patient Information Leaflet to be given Yes ☐)***	

****DISCHARGE WEIGHT:……..**** (Staff signatures:…… / ……)

****TRANSPORT ARRANGEMENTS RECHECKED AND SATISFACTORY**** Yes ☐ No ☐ ***(If 'NO' comment below)***

DISCHARGE MEDICATION

Medication	Dose	Frequency / Duration
Paracetamol		
Ibuprofen / Diclofenac		
Codeine Phosphate		
Tramadol		
Oral Morphine Solution / Sevredol		
Gabapentin (anterior spinal fusion, costoplasty, previous pain model)		
Lactulose		
Ferrous Sulphate / Sytron (If Hb less than 85 or otherwise indicated)		30 days ***(Advise parents / patient to make GP apt. in 4 weeks for repeat Hb)***

****PLEASE CHECK DRUG KARDEX FOR ANY ADDITIONAL MEDICATION THAT MAY BE REQUIRED FOR DISCHARGE****

POST-OPERATIVE ADVICE DISCUSSED WITH PARENTS / CHILD

Issue	Consider	Initial
Pain	Expectations	
Wound	Signs of infection How to seek advice	
Mobility	Encourage Limitations	
Nutrition	Well balanced diet	
Other		

Should a discharge be delayed – specify reason(s) and continue on regular ward documentation

Patient Label

Name
Date of Birth
Unit no.
CHI

Discharge Day

…… / ..... / …….. / 20.....
(day) (date) (month) (year)

CONSULTANT notes for discharge day

NURSING notes for discharge day

MEDICAL notes for discharge day

PHYSIOTHERAPY notes for discharge day

Discharge Day

On admission

Patient Label Name Date of Birth Unit no. CHI	**Admission date**		**Time**	
	Admitted by		**Signed**	
	Expected Date of Discharge (EDD)		**EDD on Trak**	**Yes** ☐
	Lead Professional			**None** ☐

During hospital stay

Discharge Type Simple ☐ Pre-planned ☐ Complex ☐ Care pathway in use

Referrals or contacts made	Date	No need		Date	No need
Lead Professional			Social Work		
Named Person: Midwife/Health Visitor/Head Teacher			Follow-up appointments		
Community Children's Nurse			Date Ambulance booked		
School Nurse			Date of Ambulance transport and ref number		
Therapies (detail below)			Discharge prescription done		
Other referrals (detail below):			Discharge medication on ward		
Notes			Cannula removed		

Advice and information given

On day of departure

Family discharge checklist. Please use this to check your child's discharge plan. Do you:	**Yes**	**No**	**No need**
Understand his/her condition and treatment, and any care needed at home			
Know when s/he can return to normal activities and to school			
Know how to seek advice if you have concerns after discharge			
Have the Discharge letter			
Have the medicines your child will need			
Understand how to give the medicines and where to get further supplies			
Know about any follow-up appointments			
Discharge telephone no		Discharge address as label?			

Discharge address if different

Any comments about your child's discharge plan

Parent/carer name:		**Signed:**		**Relationship:**
Discharged by		**Position**		
Date & time		**Signed**		

Spinal Surgery Enhanced Recovery Pathway

Patient Label

Name
Date of Birth
Unit no.
CHI

KEY TO INITIALS OF ALL STAFF COMPLETING THIS ICP					
Print name	***Designation***	***Initials***	***Signature***	***Contact Number***	***Date***
26.					
27.					
28.					
29.					
30.					
31.					
32.					
33.					
34.					
35.					
36.					
37.					
38.					
39.					
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50.					