Hospital for Special Surgery

OSCU / SDU / PACU Cheat Sheet

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PACU Discharge Criteria

- Spinal worn off
- Stable hemodynamics
- Postop labs (if applicable) reviewed and unremarkable
- Appropriate UOP
- Nausea / Pain well controlled / at tolerable level (or near baseline)
- Adjust IVF maintenance rates and set end time for patients going to inpatient floors

PACU Discharge Orders

Discharge to surgical floors

- "discharge from PACU"
    - Select "vital signs – inpatient surgical floor"

Discharge with OSA monitor (Masimo)

- "masimo" > aka "PACU discharge and transfer orders for OSA monitoring"
    - CPAP
        - Select "vital signs – inpatient surgical floor"

    OR
    - Suspected or diagnosed noncompliant OSA
        - Select "vital signs – inpatient surgical floor"
        - Under "oxygen therapy nasal cannula" select
            - Rate - 2LPM
            - Indication – post-op period

Discharge to SDU / OSCU

- "discharge from PACU"
    - Select "vital signs – SDU"
    - Under "discharge patient from PACU" select "ADT sign"
        - Unit – select "5E stepdown" from list
- "discharge from PACU"
    - Select "vital signs – OSCU"
    - Under "discharge patient from PACU" select "ADT sign"
        - Unit – select "5E OSCU" from list

Post Procedure Anesthesia Signout

- From the PACU status board select "post signout" or right click on patient and select "post signout"
- Select "normal patient"
- Ensure all vitals are filled in
- Select "sign"

Overnight Monitoring Criteria

High EBL >400 ml	
Peds High EBL >300 ml	
Long duration of case	Case duration >6 hours
Late case	Arrival in PACU after 2000
Pain obs	Pain requiring ketamine or precedex infusion
ROMI	- CAD w/o recent stress test or (+) stress test - CAD w/ a (-) ST within the past year: no ROMI is needed if the post op EKG is normal, unless explicitly requested by cards or there is another specific reason
Telemetry obs	Needs telemetry
Fluid status obs	Needs I/O trending
Medical obs d/t multiple comorbidities	
Q1/2h neuro /flap checks	
Active delirium/history of post-op delirium	
Age obs + ≥1 comorbidity	- Age >80 w/o major comorbidity can DC to floor - Age >80 w/ a major comorbidity will stay for obs
ETOH obs	
OSA (Masimo floor)	- BMI ≤ 45 - ASA 3 if only comorbidity is increased BMI
OSA + SDU criteria	- BMI >45 - ASA 2/3 w/ ≥1 comorbidity
Currently intubated / POD 1 s/p extubation	
Airway obs (ACDF >1 level / difficult airway)	
A/P spine w/ EBL >500 ml	
Bilateral knees w/ EBL <400 ml	- May be discharged if doing well >8 hrs after arrival in PACU
Bilateral hips w/ EBL <400 ml	- May be discharged if doing well >6 hrs after arrival in PACU
Arthroplasty revision w/ EBL >400 ml and/or rev of femoral component	

Common Orders & Medications

PCAs

Code to adjust PCA setting and administer bolus: 0 – 9 – 8

Administering a bolus via the PCA

- Tools > clinician bolus > enter code > enter bolus amount **in ml's**
- Typical bolus dose
    - IV PCA – typical HYDROmorphone: 2.5 mL (0.5 mg) or 5 mL (1 mg)
    - EPCA – typical HYDROmorphone - Bupivacaine: 4 mL or 8 ml

Epidural PCA

- Medication
    - Typically: HYDROmorphone 10 mcg/mL- bupivacaine 0.06%
    - Bupivacaine 0.06% or 0.12%
    - Clonidine 1mcg/ml – Bupivacaine 0.06%
- Settings

    Basal rate (mL) / demand dose (mL) / lockout time (min) / total ml per hour
    - TKR: 4 / 4 / 10 / 20 until 0559 then 2 / 4 / 10 / 20 until 0900 POD #1
    - THR: 2 / 4 / 10 / 20 until 0559 then 0 / 4 / 10 / 20 until 0900 POD #1

IV PCA

- Medication
    - Typically: Hydromorphone 0.2 mg / mL (50 ml)
        - 0 / 1.3 / 10 / 8
        - 1 / 1.3 / 10 / 8 - [Vents requiring increase sedation or better pain control. Needs to be changed to 0/1.3/10/6 @ 6am prior to extubation]
        - 0 / 2 / 10 / 12 - [CPS]
    - Hydromorphone 1 mg / ml (500 ml)
    - Fentanyl 50 mcg / mL (100 ml)
    - Fentanyl 5 mcg / mL (250 ml)
    - Morphine 1 mg / mL (50 ml)
        - 0 / 1 / 10 / 6
    - Morphine 1 mg / mL (500 ml)

Intra-articular injections, peripheral PCA infusion

Common Emergency Medications

Hypotension

- Ephedrine: Typically, 5 mg / mL 9after dilution in 10 mL syringe)
- Phenylephrine: (based on dilution) – cautious attention to HR (bradycardia)
    - 10 mg in 250 bag = 40 mcg / mL
    - 20 mg in 250 bag = 80 mcg / mL
    - 10 mg in 10 mL syringe = 10 mcg / mL
- Epinephrine: Typically, 1 mg q 3-5 min

Bradycardia

- Glycopyrrolate: 0.2 mg / mL (no dilution necessary)
- Atropine: 0.5 mg q 3-5 min (max 3 mg)

Tachycardia

- Metoprolol: 5 mg
- Adenosine: (SVT with a pulse/awake) 6 mg then 12 mg

Over sedation from opiates

- Naloxone: Typically, 40 mcg / mL (after dilution in 10 mL syringe)

Over sedation from benzodiazepines

- Flumazenil: Typically, 0.5 mg / 5 mL (no dilution necessary)

Hypoglycemia

- D50

Common Infusions

- Precedex (dexmedetomidine)
    - Max of 1 mcg/kg/hr (careful attention to HR when increasing dose)
    - Bolus of 1 mcg/kg over 10 minutes if HR/BP stable
- Ketamine
    - Max of 20 mg/hr (unless managed by chronic pain team)
    - High dose drips written by chronic pain team are typically ordered with a PRN benzodiazepine for agitation or ketamine dissociation
- Phenylephrine
- Diltiazem
- Amiodarone

Considerations

- Tachycardia versus bradycardia in the setting of hypotension
- Long-acting narcotics given in OR (i.e. Methadone, etc.)
- Pre-op TCAs, MAOIs, psychiatric/neuropsychiatric medications
- Prolonged QTc

Anesthesia Progress Notes for Patients Overnight in PACU/SDU/OSCU

Notes should be written for patients

- With an event overnight
- Intubated patients
- Returns from inpatient floors
- Admissions from outside institutions
- Patients on vasopressors
- Patients with high oxygen requirements
- Patients with presumed or confirmed sepsis
- Patients requiring more than one unit of PRBC (or other exogenous blood products)
- Patients in a monitored unit (PACU/SDU/OSCU) for greater than 24 hours requiring a higher level of care

** The note does not need a “co-sign by an attending” and should be dated for after 12 am for the following day
** Any question regarding progress notes for a specific patient should be asked during evening rounds.

Notes / Rounding Process:

SOAP Notes – include surgery, post-op day, hospital course, pertinent overnight events, reason patient is in a monitored unit, and plan moving forward (continuing antibiotics, weaning from vent, dispo planning to inpatient floor if stable, etc.)

Overnight residents/fellows are expected to present ALL patients during morning rounds at 8am with the intensivist covering PACU/SDU/OSCU – it is your responsibility to keep in touch with the overnight PA/NP so you are ready to round and are familiar with any overnight events / issues for all patients on a telemetry unit overnight for medical purposes (patients who are in a monitored unit because of lack of bed availability on inpatient floors do not need notes unless there is an event overnight).

Regarding PACU discharge notes, these can be done as soon as the “anesthetic” is resolved (you do not have to wait until actual discharge from PACU). Towards the end of the evening, writing as many of these notes as appropriate will help you avoid getting paged often with this particular (and sometimes time-consuming) task.

Other Considerations

- Corneal abrasions
- Nasal Trumpets
- Procedures (arterial/central line insertion, Swan-Ganz removal)
- Chest tube management

Event Escalation Policy

During the period the intensivist is in-house, after morning rounds and prior to evening rounds. (During normal week days)

- The APP / resident / fellow escalates listed events directly to the OSCU intensivist.

On weekends, holidays, and during the week, prior to morning rounds or after evening rounds.

- The APP / resident / fellow escalates to the on-call attending anesthesiologist.
- The on-call attending may request that the covering Hospitalist and surgical team be notified of any events brought to their attention.

Patient Events that Require Escalation

- All new admissions
- Deterioration in patient condition
  - All unexpected deaths
  - Changing goals of care to comfort measures
  - Any change in code status
  - All codes
  - Anything that requires an emergency consult from another service
  - Any unplanned emergent major imaging not previously discussed with attending (CT's, MRI, Angio, echo, ultrasound etc.)
  - Anything that requires urgent operative intervention
  - Any event requiring patient sedation to a Richmond Agitation Sedation Scale level of less than 0.
- Cardiovascular / Hemodynamic instability
  - Increasing requirement for vasopressors after leaving the operating room
  - The need for an additional vasopressors
  - Fluid requirements higher than expected
  - Increasing acidosis or worsening base deficit
  - Any arrhythmias
  - Electrical cardioversion/defibrillation
- Respiratory Instability
  - All intubations
  - Increasing O2 requirement.
  - Major problems with mechanical ventilation
  - Non-invasive ventilation (must call before using
- Neurologic Instability
- Mental status changes
  - Requirement for escalating doses of psychoactive drugs
  - Signs or symptoms of new CVA
- Infectious Complications
  - New fever above 101 in any patient with a prosthetic device
  - Positive blood culture in any patient with a prosthetic device

- Renal Instability
  - Decreased urine output for more than 3 hours and/or increase in creatinine of more than 1.5 times baseline.
  - Decreased urine not responsive to a typical dose of Lasix (20 mg PO or 5-20 mg IV)
  - Discontinuation of IV fluids less than 24 hours post-surgery
  - Lasix – any use sooner than 12 hours post-surgery
- Gastro-intestinal
  - Worsening ileus despite nasogastric tube placement
- Hematologic
  - Symptomatic anemia: Hgb of less than 10 in setting of abnormal vital signs, laboratory, or clinical findings if not previously discussed with intensivist or on-call anesthesiologist.
  - Transfusion of PRBC for a Hgb greater than 7 if not previously discussed with intensivist or on-call anesthesiologist.
  - Transfusion of FFP in the absence of bleeding and documented coagulopathy if not previously discussed with intensivist or on-call anesthesiologist.
  - Transfusion of Platelets in the absence of bleeding and coagulopathy or for Platelet count greater than 50,000 (75,000 if epidural in-situ) in a post-operative patient/ 20,000 in a preoperative patient if not previously discussed with intensivist or on-call anesthesiologist.
- Endocrine
  - Documentation of DKA
  - Documentation of hypoglycemia requiring administration of D5

Admissions and Discharges

Reasons Patients Return from Inpatient Floors

Patient returns from inpatient floors are rarely refused – decision to accept/decline patients from inpatient floors is at the discretion of the anesthesia attending covering the units

- Pediatric patient that requires continuous pulse ox, telemetry, or Q2 monitoring (PACU only)
- Chest Pain / acute MI
- Arrhythmias
- Hemodynamic instability (? need for vasopressors)
- Pulmonary edema
- Hypoxia
- Ileus requiring Neostigmine
- Suspected/confirmed Sepsis
- CVA
- AMS / Delirium
- Hyponatremia requiring hypertonic saline
- PE
- Uncontrolled pain requiring ketamine/precedex infusions

Reasons Patients are Admitted form Outside Institutions / Home / Clinic

- Infection/sepsis
- Lateral transfer of care (tele unit to tele unit)
- Periprosthetic or long bone fracture
    - Patient **must** be monitored for 24 hrs for fat emboli upon admission to HSS

Transfer Process for Sending Patients to NYP

- Notify the surgical team that the patient needs to be transferred to NYP.
- Call NYP Transfer center 212-746-4703
    - If you have an accepting physician give the operator that MD's name. They will add the MD to the call for verbal confirmation of acceptance.
    - If you do not have an accepting physician the operator which service line you think the patient should go to and they will connect you with the on-call person to ask for transfer
- If the patient is accepted, NYP will arrange for physical transfer via EMS. If the patient is too unstable for EMS, arrange with the OSCU or NYP team to accompany the patient across the bridge to NYP.
- NYP transfer center will call back when the bed is ready. If the patient decompensates while waiting for a bed call and update the accepting team of status.
- Once the bed is ready, notify the surgical team that the discharge instructions need to be finished and the **"Discharge to NYP"** order should be placed.

Admission and discharge of patients for a blood patch

- Mon – Fri admission will be handled by holding area.
- Sat – Sun / Holidays the APP / resident / fellow will be notified by the on call attending. They must then notify the nursing coordinator through PerfectServe who will coordinate the admission process.
- Once the patient is in the unit census, the attending performing the procedure can "create a procedure" the same way they would if they were placing an a-line.
- Once the patient has fully recovered, the anesthesia provider is responsible for doing the discharge instructions and discharger order. [appendix: Epic tip sheet]
- DISCHARGE INSTRUCTIONS

    Diagnosis: Post dural headache
    Attending: (anesthesiologist who performed the blood patch)
    Discharge instructions:

    - You may return to school/work tomorrow.
    - No strenuous activity or lifting heavy objects for the next 24 hours.
    - No driving for the first 24 hours.
    - Resume normal medications.
    - Resume previous diet.
    - No straining during bowel movements, consider stool softeners.
    - Call the office (during office hours) or go to a local emergency department if you experience: back pain; continued headache; fever; lower extremity numbness or weakness; signs of infection, pain, redness and/or swelling at injection site.

Emergencies, Rapid Responses, and Signal 1 (cardiac arrest)

- 4th floor PACU and 5th Floor SDU remain HSS's only telemetry units
- Rapid Response
  - Called using overhead page and PerfectServe
  - team members - 4th floor PACU/OSCU RN staff, orthopedic team (anesthesia team is not required to respond)
- Sepsis Response Team
  - Called using PerfectServe
  - Team members - Anesthesia resident/fellow, OSCU RN staff, critical care team, anesthesia attending, pharmacy, phlebotomy
  - Similar to rapid response team but geared to expediting transfer to SDU/OSCU and starting sepsis protocol

- Signal 1 (Cardiac arrest)
  - Called using overhead page and PerfectServe
  - Team members – Anesthesia resident/fellow, 4th floor PACU/OSCU RN staff, critical care team, anesthesia attending
  - Anesthesia team doesn't need to bring anything with them. RN staff brings it.
  - If anesthesia attending on-call is in the OR, on call resident is responsible to get their attending out of the OR so they can help with the signal 1.
  - If anesthesia attending is not in the OR, on call resident should go straight to the signal 1 and call (or have ancillary staff call) the attending on call to meet them where the signal 1 is in progress

MEWS / PEWS, Sepsis Screening Tools

If RN notifies you of a MEWS score of 3 or above (or PEWS of 4) fill out the Sepsis Screening Tool in EPIC

Sepsis Screening Tool

- APP / resident / fellow must fill out SST within 5 minutes of positive MEWS score
- If the SST is 3 or above the attending needs to be notified and assess patient/write a note within 30 minutes of positive SST score
- If the patient screens in again after 4 hours (and treatment has already been initiated, patient is stable, etc.), the APP/resident/fellow should notify the attending of the event but they do not have to come see the patient. The APP/resident/fellow should write a brief note stating +SST and interventions are in place.
- If the patient screens in 8 hours after the initial +SST, the attending must come assess the patient and write a brief note.
- Positive sepsis screening tool will auto populate for blood cultures & lactate.
  - If the patient screens in multiple times in a row
    - Blood cultures are drawn once every 24 hours.
    - Lactate is sent every time they screen in.
      - If the lactate is >2 repeat lactate q3 hours until lactate is <2

Passwords / Codes

4th floor nurse's breakroom	1 – 2 – 5
5th floor nurse's breakroom	1 – 2 – 4
Most supply closets	3 – 4 – 5
4th floor anesthesia resident call room	2 & 4 – 3
4th floor anesthesia office	2 & 4 – 3
9th floor anesthesia office	1 & 3 – 5
Anesthesia resident phone	477111

Anesthesia resident PerfectServe

Username: anesthesiaresident.oncall
Password: Backinthegame!
PIN: 4771

Anesthesia attending on-call room phone number 212-606-1533

Location of supplies / carts

- Malignant hyperthermia & interlipid med box
  - 4th Fl PACU – by bed 17
  - 5th Fl PACU – in SDU med room
  - 9th Fl PACU - none

- Crash Cart
  - 4th Fl PACU – by bed 10, 17, 19, 30, 33
  - 5th Fl SDU/OSCU – by room 553 & OSCU 3
  - 9th Fl PACU – by bay 31

- Anesthesia Cart
  - 4th Fl PACU – by bed 1 & 32
  - 5th Fl SDU/OSCU – by room 550 & OSCU 3
  - 9th Fl PACU – by bay 21

- Difficult Airway Cart
  - 4th Fl PACU – by bed 1
  - 5th Fl SDU/OSCU – by room 545
  - 9th Fl PACU – by bay23

- Cervical Airway Kit
  - 4th Fl PACU – by bed 1
  - 5th Fl SDU/OSCU – by room 544 & 1 OSCU 3
  - 9th Fl PACU – none

- GlideScope / Fiberoptic Setup (with light source)
  - 4th Fl PACU – GlideScope is in the OR. Fiberoptic is by bed 1
  - 5th Fl SDU/OSCU – OSCU 3
  - 9th Fl PACU – OR

- Unicell
  - 4th Fl PACU – 7 scattered throughout PACU
  - 5th Fl SDU/OSCU – 1 by room 544
  - 9th Fl PACU - none

- Provider Pyxis
  - 4th Fl PACU – by bed 15
  - 5th Fl SDU/OSCU – by room 544
  - 9th Fl PACU – none in PACU, only in OR

- Supply Closet
  - 4th Fl PACU – by bed 22, in the “New U”
  - 5th Fl SDU/OSCU – by room 555 & OSCU 3
  - 9th Fl PACU – by bay 22

Useful Phone Numbers:

Useful HSS numbers

Anes attending on-call room:		606-1533
4th Fl PACU:	606-1205	606-1223
4th Fl anesthesia office:		797-8838
4th Fl anesthesia cubby:		774-2253
4th Fl resident call room:		606-1045
5th Fl SDU/OSCU:	797-8550	797-8552
5th Fl anesthesia office:		797-9430
9th Fl PACU:		260-3838
Blood bank:		606-1340
Chemistry:		606-1348
Hematology:		606-1257
Microbiology:		606-1256
Pharmacy:		606-1371
CT:		606-1264
MRI:		606-1882
Ultrasound:		774-7092
X-ray:		606-1258
Radiology reading room:		260-3053
Housekeeping:		260-4175
Security:		606-1840

HSS Services available via PerfectServe App

Cardiology MD: (Friday 5 pm – Monday 7am)

Cardiology NP: (device interrogation)

Neurology

Infectious disease

Diabetes NP

Speech Therapy

NYP Consult Services

NYP Main:	(91) 212-746-5454
NYP ED:	(91) 212-746-5050
NYP Transfer Center:	(91) 212-746-4703
NYP Cath lab (activation):	(91) 800-NYP STAT

NYP Main: (91) 212-746-5454

Ask the operator to page either the pager number or the service

NYP Echo Read:	(91) 212-746-4651
4 North Cards:	12817
4 South Cards:	10802
4 South CCU:	(91) 212-746-0323
Stepdown Cards:	(91) 212-746-0326
PICU:	(91) 212-746-0308
MICU:	(91) 212-746-0311
NYP Ortho Office:	(91) 212-746-4507
Cardiology:	14832
Dermatology:	17947
Endocrine:	17682
ENT:	12806
Gen surg:	30100
GI:	17615
GU:	12363
Heme:	30448
IR:	17016
MICU:	60311
MICU Consult:	12861
Nuclear Med:	(91) 212-746-4580
Neurosurgery:	12868
Ophthalmology:	12842
Ortho Intern:	12809
PICU:	60308
Peds Resident:	21705
Pulmonary:	10416
Psych @ NYPH:	(91) 212-746-0711
Psych Consult:	(91) 212-746-3920
Emergency NYP Psych Pager:	17751
Renal:	12873
Thoracic Surgery:	17222
Vascular:	11667