Johns Hopkins Medicine
Department of Anesthesiology and Critical Care Medicine

Center for Perioperative Optimization

PREOPERATIVE ROADMAP

For Providers Requiring Anesthesia Services

November 2025

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CPO Epic Secure Chat Contact Groups
Adult: JHOC PREOP EVALUATION
Pediatrics: JHDMR PEDS PRE OP EVAL
Ophthalmology: JHH OPH PREOP EVAL

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CPO Introduction

The Center for Perioperative Optimization (CPO) aims to guide surgeons and proceduralists in preparation for surgery and perioperative considerations to facilitate the best possible outcomes. Our focus is on patient safety and collaboration among care teams to minimize cancellations or delays on the day of surgery, while optimizing perioperative outcomes. Our roadmap serves as a guide to indicate which patients would benefit from a CPO evaluation, considerations for co-morbid conditions, recommendations for preoperative testing, and preoperative medication management.

Who Should Come to CPO?

The Pre-Procedure Questionnaire (PPQ), a screening tool developed by JPOP, is assigned to patients' MyChart as soon as surgery is posted. The PPQ score helps to determine if the patient would benefit from a CPO versus PCP visit preoperatively and helps to determine if an Ambulatory Surgical Center is an appropriate OR venue based on the patient's comorbid conditions. Surgical offices should encourage patients to complete the questionnaire as soon as it populates to allow ample time for scheduling preoperative appointments. Please reference Appendix A to view the PPQ and scoring grid. Patients who score yellow or red should be evaluated in CPO before surgery. For patients who do not complete the PPQ, we recommend all patients who are an ASA III or ASA VI (see Patient Risk Stratification) come to CPO for preoperative evaluation. Page 6 lists co-morbid conditions that would also benefit from a CPO visit.

Outside Studies

If outside facilities are utilized to generate history and physicals, lab studies, other diagnostic tests, or consultation reports, please obtain these results (including normal value ranges) and scan them into Epic so they are available for review. For every patient requiring an ECG, please inform them to obtain a copy of a previous ECG for comparison. **All records should be scanned into Epic at least 72 hours before the surgery date.**

Patient Risk Stratification

Classification	Definition	Adult Example
ASA I	A normal healthy patient	Healthy, nonsmoking, no or minimal alcohol use
ASA II	A patient with mild systemic disease	Mild diseases without substantive functional limitations (current smoker, social alcohol drinker, pregnancy, obesity, well controlled DM/HTN, mild lung disease)
ASA III	A patient with severe systemic disease	Substantive functional limitations; One or more moderate to severe diseases (poorly controlled DM or HTN, COPD, BMI ≥40, active hepatitis, alcohol dependence or abuse, implanted pacemaker, moderate reduction of EF, ESRD on dialysis, history [>3 months] of MI, CVA, TIA or CAD/stents).
ASA IV	A patient with severe systemic disease that is a constant threat to life	Recent (< 3 months) MI, CVA, TIA or CAD/stents, ongoing cardiac ischemia or severe valve dysfunction, severe reduction of EF, shock, sepsis, DIC, ARD or ESRD not undergoing regularly scheduled dialysis
ASA V	A moribund patient who is not expected to survive without the operation	Ruptured abdominal/thoracic aneurysm, massive trauma, intracranial bleed with mass effect, ischemic bowel in the face of significant cardiac pathology or multiple organ system dysfunction.
ASA VI	A declared brain-dead patient whose organs are being removed for donor purposes	

Source: American Society of Anesthesiologists (2020). ASA Physical Classification System. https://www.asahq.org/standards-and-guidelines/asa-physical-status-classification-system

Surgical Risk Stratification

- **Low-Risk Surgical Procedure:** Poses minimal physiologic stress (ex. – outpatient surgery)
- **Intermediate Risk Surgical Procedure –** Medium risk procedure with moderate physiological stress and minimal blood loss, fluid shifts, or postoperative changes
- **High-Risk Surgical Procedure –** High-risk procedure with significant fluid shifts, possible blood loss, as well as perioperative stress anticipated. Anticipated ICU stays postoperatively
- **See** Appendix F **for Blood Ordering Schedule**: No blood ordered is low risk, type and screen ordered is medium risk, and type and screen for 2 or more units ordered is high risk.

Medical Conditions that may warrant an ASA III or IV status, and would benefit from a Preoperative Assessment at the CPO:

General Conditions:

- Medical condition inhibiting ability to engage in normal daily activity – unable to climb two flights of stairs without stopping
- Medical condition necessitating continual assistance or monitoring at home within the past six months
- Admission to a hospital within the past two months for acute or exacerbation of a chronic condition
- History of previous serious anesthesia complications or history such as malignant hyperthermia or pseudocholinesterase deficiency

Cardio-circulatory:

- History of angina, coronary artery disease, cardiomyopathy, or congestive heart failure, including HFrEF and HFpEF
- Myocardial infarction, particularly in the past 12 months
- Symptomatic arrhythmias, particularly new onset A-Fib
- Poorly controlled hypertension (systolic > 160 and/or diastolic > 100) and/or taking 3 or more antihypertensive medications
- History of significant valvular disease (aortic stenosis, mitral regurgitation, etc)
- Surgery posted for ICU postoperatively and/or potential for massive transfusion protocol initiation

Respiratory:

- Asthma/COPD requiring chronic medication or with acute exacerbation and progression within the past six months
- History of major airway surgery or unusual airway anatomy (history of difficult intubation in previous anesthetic)
- Upper or lower airway tumor or obstruction
- History of chronic respiratory distress requiring home ventilatory assistance or monitoring
- Home oxygen use
- For patients with long Covid-19 (PASC) or with prolonged symptoms (greater >1 month) of fatigue and dyspnea

Endocrine:

- Insulin-dependent diabetes mellitus, including insulin pumps
- Adrenal disorders
- Active thyroid disease

Neuromuscular:

- History of seizure disorder or other significant CNS diseases (multiple sclerosis, myasthenia gravis, etc.)
- History of myopathy or other muscular disorders (muscular dystrophy, etc.)

Hepatic/Renal/Heme:

- Any active hepatobiliary disease or compromise (hepatitis)
- End-stage renal disease (dialysis)
- Severe anemias or myelodysplastic syndromes (Sickle Cell, Aplastic, etc.)

Obese/Obstructive Sleep Apnea

- BMI >40
- OSA associated with a high incidence of respiratory failure post-anesthesia
- Please complete the STOP-BANG scoring of your patient (Appendix D) to assess the risk of OSA

Preoperative Testing Guidelines

To reduce unnecessary testing, we recommend the following approach for ASA I or ASA II patients having LOW-RISK procedures (cataracts, superficial skin grafts, superficial biopsies, and endoscopy procedures):

- Hb/HCT on any menstruating female. For minor procedures on healthy patients, we may be able to check Hb on the morning of surgery.
- Urine pregnancy test on the morning of surgery for any menstruating female.
- No Chest X-ray is indicated unless there is a history of recent pleural effusion or current URI with fever.
- No PT/INR or APPT is indicated except for a patient with a history of bleeding/easy bruising or a hematologic disorder unless indicated based on the nature of the surgery.
- No Urinalysis and culture unless the patient is having new urinary symptoms or having urologic surgery.

If the patient is having an intermediate or high-risk procedure and/or has significant medical conditions, additional testing is required. The general guidelines listed below can be used to determine appropriate preoperative tests based on specific comorbid medical conditions. **To help facilitate a more efficient evaluation at the CPO visit, we recommend obtaining these tests before the patient visits with the CPO.** ***See the next page for EKG recommendations.***

- **Diabetes:** BMP; A1C within 3 months to assess control of diabetes
- **Hypertension** of 5 yrs. duration and/or requiring two or more meds or cardiac diagnosis: CBC, BMP, ECHO, Stress Test, and/or Cardiac evaluation if poor exercise tolerance, or if symptoms are significant and no previous studies within one year.
- **COPD:** PFTs if symptoms are significant; including home O2 or shortness of breath with exertion and or any recent change in function.
- **Anemia / Bleeding Hx:** CBC, consider PT/INR.
- **Liver dysfunction, Malnutrition:** CMP, CBC, and PT/INR.
- **Poor Exercise Tolerance:** CBC, CMP. Consider ECHO, Stress Test, and/or Cardiac evaluation if no previous studies within the past year.
- **Morbid Obesity:** CBC, CMP, Consider ECHO, Stress Test, and/or Cardiac evaluation if poor exercise tolerance, and no previous studies within the past year.
- **End Stage Renal (dialysis and/or renal failure patients):** CBC, post hemodialysis labs, Hemoglobin, and BMP at a minimum, Na/K morning of surgery. Patients stable on peritoneal dialysis do not require morning-of-surgery testing if previous lab values have been WNL/stable.

Preoperative Testing Guidelines (continued)

Preoperative ECGs:

All surgery: Required within 30 days only if recent changes in functional status, new or unstable angina, myocardial infarction in the past 3 months, or progressive dyspnea/shortness of breath.

- Low-risk **surgery** (such as cataracts, endoscopy, superficial procedures, or diagnostic angiography): None is required except as noted above. If available please obtain a copy of the most recent, EKG.
- **Intermediate risk surgery**: Required within 6 months for anyone with a history of coronary heart disease, other significant structural heart diseases such as arrhythmias, valvular disorders, peripheral vascular disease, cerebrovascular disease, insulin-dependent diabetes, chronic kidney disease (creatinine > 2 mg/dL.), or extremely poor functional capacity.
- **High-risk surgery**: Same as intermediate risk and also required within 6 months for anyone with anticipated ICU postop. Anyone with a history of diabetes, hypertension, morbid obesity, HIV, ESRD, or poor functional capacity

Type & Screen:

- Must be done at a Hopkins lab within 30 days of surgery.
- Must document two criteria to qualify as a 30-day sample at the time of order: 1. No transfusions in the past 90 days 2. No pregnancy in the past 3 months.
- If recent transfusion, pregnancy, or positive antibodies, will need sample updated within 72 hours of surgery.
- These samples can take hours to get results and could cause delays on the day of surgery if not obtained in advance.
- See Appendix G for the Surgical Blood Order Schedule.

Type & Cross/T&S Locations:

Johns Hopkins **Outpatient Center** – Express Testing
601 N. Caroline Street Baltimore, Maryland – 21287
Phone: 410-955-1681 | Fax: 410-614-1331
Monday – Friday: 7:00 am - 5:45 pm (no weekends or holidays)

Johns Hopkins Medical Laboratory **Green Spring Station**
10753 Falls Road, Pavilion II, Suite 105 Lutherville, Maryland – 21093
Phone: 410-583-2677 | Fax: 410-583-2681
Monday – Friday: 6:30 am - 6:00 pm (no weekends or holidays)

Johns Hopkins Medical Laboratory **White Marsh**
4924 Campbell Blvd., Suite 115 Nottingham, Maryland – 21236
Phone: 443-442-2100 | Fax: 443-442-2102
Monday – Friday: 8:00 am - 6:00 pm Saturday: 8:00 am - 12:00 pm (no holidays)

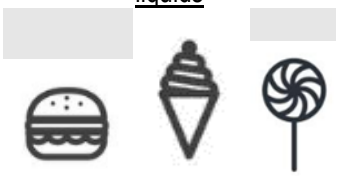
Johns Hopkins Medical Laboratory **Odenton**
1106 Annapolis Road, Suite 270 Odenton, Maryland – 21113
Phone: 410-874-1435 | Fax: 410-874-1540
Monday – Friday: 7:30 am - 5:00 pm Saturday: 8:00 am - 12:00 pm (no holidays)

Johns Hopkins Medical Laboratory **Howard County** (The Medical Pavilion at Howard County)
10710 Charter Drive, Suite G040 Columbia, Maryland – 21044
Phone: 443-546-1110 | Fax: 443-546-1112
Monday – Friday: 8:00 am - 4:30 pm (no weekends or holidays)

NPO Guidelines

ADULT FASTING INSTRUCTION EXAMPLES

Clear Liquids	THE ONLY CLEAR LIQUIDS ALLOWED ARE:	STOP 1 hour before you are told to arrive at the hospital:
	• Water • Gatorade® • CLEAR Apple Juice (no pulp or cider) **NO other clear liquids allowed including alcohol** ***See Exceptions Below**	• You are **REQUIRED** to have a total of 20 ounces of allowed clear liquids between midnight and 1 hour prior to your arrival • You may **ONLY** have 8 ounces of allowed clear liquids in the last hour you are allowed to drink

ALL other foods and non-clear liquids	All solid food, all liquids you are unable to see through, all candy, chewing gum and mints ***See Exceptions Below**	STOP 8 hours before you are told to arrive at the hospital
		

*** Exceptions:**

- Patients with **End Stage Kidney Disease**, scheduled for a **kidney transplant**, have **gastroparesis** (slow emptying of the stomach) or if you are **pregnant:** CLEAR LIQUIDS MUST STOP SIX (6) HOURS BEFORE YOU ARE TOLD TO ARRIVE AT THE HOSPITAL
- If your surgeon has instructed you to stay on a clear liquid diet before day of surgery, follow your surgeon's instructions and avoid all food and non-clear liquids

Examples of different Enhanced Recovery After Surgery (ERAS) protocols

OB/GYN	LIVER/DIEP FLAP	COLORECTAL/WHIPPLE/ETC

Appendix A: Pre-Procedure Questionnaire (PPQ) - Adult

1	What is your weight? (In pounds) _____
2	What is your height? (In feet and inches) _____
3	Do you have a Primary Care Provider (PCP) you have seen within the last 6 months? ☐Yes ☐No **If yes**, please enter their name/phone number _____
4	Do you see any other doctors/specialists from the list below? ☐Yes ☐No **If yes**, select specialist(s) below: ☐Cardiologist (heart) name/phone number_____ ☐Pulmonologist (lung) name/phone number_____ ☐Endocrinologist (diabetes, thyroid, or adrenal disorders) name/phone number_____ ☐Hematologist (blood clotting or bleeding disorders or sickle cell disease) name/phone number_____ ☐Oncologist (cancer) name/phone number_____ ☐Nephrologist (kidney) name/phone number_____ ☐Gastroenterologist (liver, digestive, bowel) name/phone number_____ ☐Neurologist (brain or seizure disorders) name/phone number_____ ☐Rheumatologist (autoimmune, connective tissue, or arthritis disorders) name/phone number_____ ☐Other_____ name/phone number_____
5	Have you been hospitalized or had an emergency room visit within the last 6 months? ☐Yes ☐No **If yes**, please describe_____
6	Are you on dialysis? ☐Yes ☐No **If yes**, what type of dialysis? ☐Peritoneal (abdominal tube) ☐Hemodialysis (dialysis center) **If yes to hemodialysis**, what is your schedule? ☐Monday/Wednesday/Friday ☐Tuesday/Thursday/Saturday
7	Do you have diabetes? ☐Yes ☐No **If yes**, do you use insulin? ☐Yes ☐No
8	Do you take more than 5 prescription medications? (Not including sleeping pills or anti-anxiety medications) ☐Yes ☐No
9	Do you take any anticoagulant ("blood thinning") medications? (For example: Coumadin, Eliquis, Pradaxa, Xarelto) ☐Yes ☐No
10	Have you been diagnosed with a blood disorder? (For example: anemia, bleeding, coagulation, blood clotting problem, or sickle cell disease) ☐Yes ☐No
11	Do you use oxygen at home? ☐Yes ☐No
12	Do you have sleep apnea? ☐Yes ☐No **If yes**, do you use a CPAP/BiPAP (breathing) machine when sleeping? ☐Yes ☐No
13	Can you walk up one flight of stairs without becoming short of breath? ☐Yes ☐No
14	Can you walk four blocks without becoming short of breath? ☐Yes ☐No
15	Can you lay flat for more than 30 minutes without becoming short of breath? ☐Yes ☐No
16	Have you ever been told it was difficult to place a breathing tube in your airway ("difficult intubation")? ☐Yes ☐No

17	Have you had any problems when you were given anesthesia in the past? ☐Yes ☐No ☐N/A (I have never had anesthesia) **If yes**, please describe the problem(s)_____
18	Has the medical team had difficulty inserting an IV (intravenous) catheter in your arm? ☐Yes ☐No (Not appropriate for ASC but does not require CPO assessment)
19	Have you ever been told you have or are at risk for Malignant Hyperthermia or have a blood relative with Malignant Hyperthermia? (This is a severe reaction to anesthesia that includes a dangerously high body temperature, rigid muscles or spasms, a rapid heart rate, and other symptoms) ☐Yes ☐No
20	Are you pregnant, do you think you might be pregnant, or were you pregnant in the last 90 days? ☐Yes ☐No (Not appropriate for ASC but does not require CPO assessment)
21	Have you had a blood transfusion within the last 90 days? ☐Yes ☐No
22	Do you refuse blood products to be administered to you for personal, cultural, or religious reasons (For example: Jehovah's Witness)? ☐Yes ☐No
23	Do you have an implanted medical device(s) in your body from the list below? (Not including hardware such as pins/plates/screws) ☐Yes ☐No **If yes**, please select the device(s) below. ☐Insulin pump ☐Other medication pump ☐Cardiac (heart) pacemaker ☐Automated Implantable Cardioverter Defibrillator (AICD) ☐Ventricular Assist Device (VAD) for example Heartmate or Heartware ☐Gastric Pacemaker ☐Vagal Nerve stimulator ☐Deep Brain Stimulator ☐Bladder Stimulator ☐Tracheostomy (breathing tube in the neck) ☐Gastrostomy or Jejunostomy (feeding tube) ☐Plastic Surgery Implants (For example: tissue expander) ☐Dental Implants ☐Implanted Sleep Therapy Device (For example: Inspire) ☐Other_____

Scoring Matrix

CPO Scoring	
RED = HIGH RISK	Patient qualifies for Anesthesia/CPO Clinic assessment
YELLOW = MODERATE RISK	Patient qualifies for additional assessment NP/PA
GREEN = LOW RISK	Patient qualifies for RN Review
ASC Scoring	
RED = HIGH RISK	Patient **does not** qualify for ASC
YELLOW = MODERATE RISK	Patient needs additional review, but could be appropriate for ASC
GREEN = LOW RISK	Patient qualifies for ASC

Appendix B: Exclusionary Criterion for JHOC

These conditions preclude scheduling your outpatients in JHOC:

1. Inpatients are excluded; with the exception of those inpatients who will be discharged from the hospital prior to the OR procedure and who will be discharged to home following their operative procedure.
2. Patients in whom there is a reasonable chance of requiring administration of blood products are excluded.
3. All ventilator-dependent patients are excluded.
4. Patients with moderate to severe Pulmonary Hypertension (RVSP by echocardiogram 50mmHg or greater) are excluded.
5. Any case where the patient would require intra-operative invasive monitoring devices are excluded.
6. Patients with severe cardiac valvular heart disease, as defined by the American Heart Association, are excluded.
7. Patients with a Ventricular Assist Device (VAD) are excluded.
8. Patients receiving supplemental home oxygen therapy or who have a left ventricular ejection fraction (LVEF) <30% by echocardiogram may be scheduled if having very minor surgery; however, they must be seen in the CPO for determination of appropriateness.
9. Patients less than 15 years of age are excluded. However, exceptions may be made at the discretion of the Medical Director of Perioperative Services or designee, on a case-by-case basis, as special exceptions. Please refer to the "Child-Centered Care Guidelines".
10. Patients with a BMI ≥ 50 are excluded.
11. Patients with OSA or those with a high risk of OSA will be allowed to be done in JHOC; however, if a room air trial is unsuccessful, these patients must be transported to the main hospital PACUs for extended recovery.
12. **Patients having airway surgery are excluded if they have the following:** BMI >40, significant or uncontrolled GERD, significant neuro/ musculoskeletal diseases such as MG/ muscular dystrophy/ mitochondrial diseases/ congenital airway syndromes, significant active pulmonary disease: COPD/ asthma/ pulmonary fibrosis/ home O2, active cardiac disease: CAD/ Aortic stenosis/ cardiomyopathy/ pulmonary HTN
13. For patients *not* having airway surgery with significant neurological or musculoskeletal diseases such as myasthenia gravis, muscular dystrophy, mitochondrial diseases, congenital airway syndromes, or craniofacial abnormalities, please discuss if JHOC is appropriate with either the CPO or JHOC anesthesia attending.
14. Patients with an anterior mediastinal mass that is *not* a goiter are excluded.
15. New onset, poorly controlled, or grand mal/tonic-clonic seizure within 3 months of procedure

Appendix C: Special Considerations

Patients with Suspected/Confirmed Malignant Hyperthermia (MH): *Must be first case to avoid receiving triggering anesthetic residual from prior cases*. Ask patient if they have received anesthesia in the past and if they had genetic testing for MH. Suspect MH if an immediate family member has been diagnosed with MH.

1. **Patients receiving Hemodialysis:** These patients must have their dialysis done the day before scheduled surgery or the surgery may be canceled. If the patient's regular dialysis day falls on the day of surgery, work with the patient's dialysis center to arrange for the patient's session to be moved to the day before surgery. Please avoid Monday surgery on patients with a Monday dialysis schedule; Sunday dialysis requires a hospital admission that is now primarily denied by insurance providers. In addition to the issue of the need for Sunday dialysis before Monday surgery is the similar need for routine dialysis on a holiday the day before surgery. Both dilemmas need to be worked out with the dialysis center or there must be a change in the day of surgery.

2. **Patients with Pulmonary Hypertension:** These patients should see their cardiology/pulmonary specialist preop and be seen in CPO to assess the need for Cardiac Anesthesia. Please note that JHOC excludes patients with RVSP (Right Ventricular Systolic Pressure) that is greater than 50.

3. **Patients with Myasthenia Gravis:** Every attempt should be made for these patients to be the first case. If not completed as first case, there should be an ICU bed available postop. They should continue their Mestinon medication on the morning of surgery. Consider obtaining the most recent neurology note to determine the patient's baseline vital capacity.

4. **Patients with a Transplant having non-transplant surgery**: Assure that the patient's transplant team is aware the patient is having surgery.

5. **Patients who are Jehovah's Witnesses or who refuse blood products**: Email Andrew Pippa and Lindsay Patrick Freemont with the Bloodless Medicine team to alert the team well before the day of surgery for planning purposes. The bloodless medicine form will be uploaded to the media tab once completed.

6. **Patients with Sickle Cell Disease**: Patients with Sickle Cell Disease: Their hematologist needs to be notified of any plan for surgical procedure. If they have a sickle cell specialist outside of JHH, please also contact the Hopkins Sickle Cell team. If the timing for surgery is urgent or to arrange preoperative hematology evaluation and coordinate transfusion with surgery date, please send a secure chat to the group "**JHH sickle cell consult"**. Many of these patients will need simple or exchange transfusion to optimize their condition before surgery, these need to be timed often within 24-48 hours of their procedure.

7. **Patient with Other Hematologic Disorders (ITP, hemophilia, etc.)**: Some Hematologic diseases require specific treatments prior to surgery or on the morning of surgery before proceeding. Planning for this is extremely important so make sure patients with Hematologic disorders see their Hematologist prior to surgery for optimization and recommendations.

8. **Patients who are under the Guardianship of the Department of Social Services (DSS):** Whether pediatric or adult, these patients require separate consent for both their surgical procedure and their anesthesia. These consents require signatures from the patient's authorized DSS Representative and must be secured before the actual day of surgery. The daily adult anesthesia coordinator (667-776-6430) or pediatric coordinator (443-287-2777) should be contacted to help facilitate these consents.

9. **Patients with Pseudocholinesterase deficiency**: Patients should be scheduled for surgery as early in the day as possible due to the risk of requiring prolonged recovery time. Add "pseudocholinesterase deficiency" to the patient's problem list and notify Adult OR Schedulers of the patient's diagnosis so anesthesia staff can plan to avoid triggering anesthetics.

10. **Any patient with a Pheochromocytoma or Paraganglioma:** These patients should all be scheduled for a CPO visit more than 48 hours before surgery.

11. **Any patient scheduled for HIPEC Surgery:** These patients should all be scheduled for a CPO visit more than 48 hours before surgery. They should have CBC, CMP, PT/INR, and T&S updated within a week of surgery.

12. **Patients on Methadone:** Patients need to take their am dose of Methadone on the day of surgery. We strongly recommend these patients get an appointment in the Pain Clinic before surgery (Appendix T).

13. **Patients with Recent Stroke/TIA**: Patients with Recent Stroke/TIA: Per recent guidelines, we suggest that elective noncardiac surgery be deferred at least **3 months** after a prior stroke (including TIA). If surgery is scheduled within 3 months of a stroke or TIA, it is important to document that a risk discussion has occurred and the reason for proceeding on the scheduled date. We will make every attempt to review the discussion with the Anesthesia scheduler and Anesthesia Coordinator as well as the anesthesiologist assigned to the case. Please schedule an anesthesia consult if a stroke occurred less than 3 months ago.

    Source: https://jamanetwork.com/journals/jamasurgery/fullarticle/2793559

Appendix C: Special Considerations (continued)

Breastfeeding after Anesthesia

Recommendations:

The following recommendations are suggested for lactating women requiring surgery:

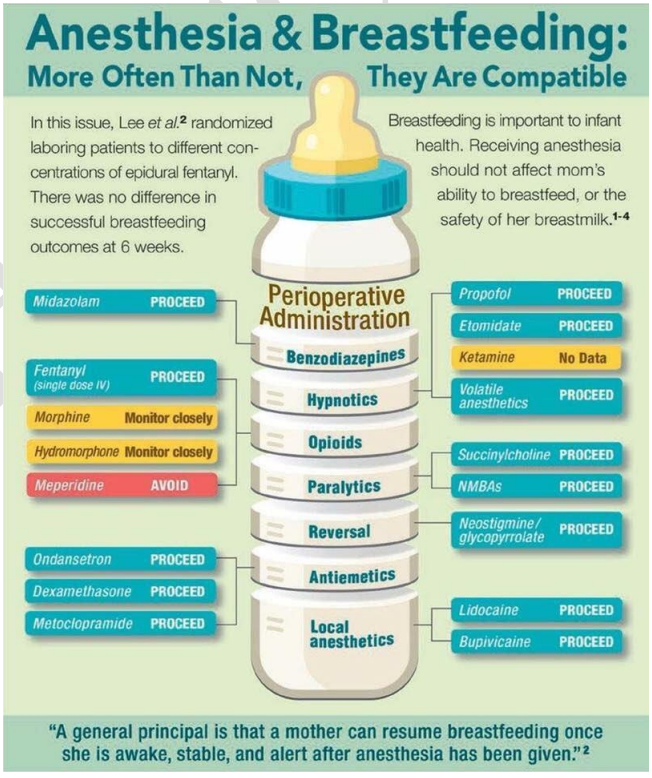
1. All anesthetic and analgesic drugs can transfer into breastmilk; however, only small amounts are present in very low concentrations which are considered clinically insignificant.

2. Opioids and/or their metabolites may transfer in slightly higher levels into breastmilk; therefore, steps should be taken to lower opioid requirements by adding other classes of analgesics when appropriate and avoiding drugs that are more likely to transfer (i.e., have a higher RID).

3. Because pain interferes with successful breastfeeding, patients should not avoid pain medicines after surgery. Despite an excellent safety record, breastfeeding persons who require opioid pain medicines should monitor for potential signs of sedation: difficult to wake and/or slowed breathing. Additional consideration for when to resume breastfeeding postoperatively should be given to patients with neonates or infants at high risk for apnea (e.g. prematurity)[3].

4. When possible, spinal or epidural anesthesia consisting of local anesthetic and a long-acting opioid, should be used for cesarean delivery to reduce overall post-operative pain medication requirements.

5. Patients should resume breastfeeding as soon as desired after surgery[11] because anesthetic drugs appear in such low levels in breastmilk. It is not recommended that patients "pump and dump" and rather they should "sleep and keep"[13].



Statement on resuming breastfeeding after anesthesia. American Society of Anesthesiologists (ASA). (2024, October 23). https://www.asahq.org/standards-and-practice-parameters/statement-on-resuming-breastfeeding-after-anesthesia

Appendix D: OSA Screening

Have you ever been diagnosed with Obstructive Sleep Apnea (OSA) by undergoing a sleep study or Polysomnogram?	YES	NO
If YES, were you prescribed a CPAP or a dental device?	YES	NO
If you answered YES to BOTH of the above, SKIP the following questionnaire. Otherwise, please answer the questions below		
Snoring? Do you **Snore Loudly** (louder than talking or loud enough to be heard through closed doors)?	YES	NO
Tired? Do you often feel **Tired, Fatigued, or Sleepy** during the daytime?	YES	NO
Observed? Has anyone **Observed** you **Stop Breathing** during your sleep?	YES	NO
Pressure? Do you have or are being treated for **High Blood Pressure**?	YES	NO
Body Mass Index more than 35?	YES	NO
Age older than 50?	YES	NO
Neck size large? Do you have a **Neck that Measures** more than 16 inches / 40 cm around (measure at Adam's Apple)?	YES	NO
Gender = Male?	YES	NO

Low risk of OSA: Yes to 0-2 questions
Intermediate risk of OSA: Yes to 3-4 questions
High risk of OSA: Yes to 5-8 questions.

STOP-BANG SCORE **/ 8**

Chung F et al. Anesthesiology 2008; 108: 812-821, and Chung F et al Br J Anaesth 2012; 108:768–775.

Appendix E: Pacemaker/AICD Implantable Stimulators

Cardiac Pacemakers/AICD

- All patients with a Cardiac Pacemaker or AICD **must be interrogated within 6 months** before any surgical or interventional procedure requiring electrocautery. This means that minor procedures (like endoscopy, bronchoscopy, or other minor procedures) that do NOT use bovie are not required to be seen.
- To schedule a device check, please follow these steps
  - Email the Device Clinic at device-service@jhmi.edu
  - Include in the body of the note:
    - Pt name and Hx#
    - DOS/Time/OR Venue
    - Name of the manufacturer of the device
    - Surgeon's name and contact information – the Device Clinic will get the cautery information from the surgeon's office directly
    - Indication for the device (if you know)
    - Your name and phone # in case they have any questions
    - Once you email them, call them directly at 5-1143 to see if and when they may be able to accommodate the patient.
- If the patient has an interrogation report in Epic within the past 6 months, please call the device clinic at 5-1143 extension 5 to make them aware of patients' surgery date, type, location and time.

Vagal Nerve Stimulator (VNS) and Deep Brain Stimulators (DBS)

- For patients with a **Vagal Nerve Stimulator (VNS)**— the device needs to be turned off before surgery and then turned back on after (this is usually done on the day of surgery- turned off in pre-op & back on in recovery). This can be arranged by e-mailing Kriss Fat and John Avery. If it is an urgent case or prior arrangements were not made, please contact "JHH EEG Lab" in Secure Chat. If no one is able to respond, please contact LivaNova support at 1-866-882-8804 to discuss options. Kriss and John will need to know the following:
  - Pt name and Hx#
  - DOS/Time/OR Venue
  - Please note, we cannot accommodate surgeries done off of the East Baltimore campus.
  - The VNS also needs to be turned off/ on before & after MRI

- For patients with a **Deep Brain Stimulator (DBS**) - contact the vendor reps for the particular device. If unsure who the vendor is but know the manufacturer of the device, reach out to Pam Lowe in Dr. William Anderson's office for rep contact information

Gastric Pacemakers

- For patients with Gastric Pacemakers - Contact the patients' gastroenterologist to make them aware of upcoming surgery and to ensure there is a plan to turn the device off. If unable to contact the patient's gastroenterologist, contact Dr. Robert Bulat to request assistance with the device.

  ***Dr. Bulat is available in the outpatient setting for CPO providers ONLY.**

Appendix F: Patients with Cardiac Stents

The Johns Hopkins Hospital Antiplatelet Bridging for Patients with Cardiac Stents

Cardiac stent patients on dual antiplatelet therapy (DAP-aspirin & antiplatelet agents) pose a clinical challenge during surgeries or invasive procedures. The risk of uncontrolled bleeding if DAP therapy is continued versus acute stent thrombosis if DAP is discontinued in the perioperative period presents a clinical dilemma. To help guide perioperative DAP therapy and improve clinical outcomes for patients with coronary stents, a JHH multidisciplinary task force has developed the following one-page decision support tool (please see below).

In addition, the CPO has agreed to assist the attending providers with perioperative management of patients on DAP therapy. If the scheduled case will occur within one week of the posting, the CPO clinic coordinator should be called (410-283-3510) or secure chat the group "JHOC preop evaluation" to facilitate a stent patient appointment.

Antiplatelet Bridging Tool for Patients with Cardiac Stents

1. Postpone Elective Procedures until minimum duration of dual antiplatelet therapy (DAP) is complete, unless DAP can be continued without interruption throughout the periprocedural period.

Minimum Duration Stent Implantation when implanted for stable CAD	
Bare Metal Stent (BMS)	**1 month**
Drug Eluting Stent (DES)	**6 months**

Minimum Duration Stent Implantation when implanted for acute coronary syndrome (unstable angina, NSTEMI or STEMI)	
Bare Metal Stent (BMS)	**12 months**
Drug Eluting Stent (DES)	**12 months**

2. High Risk Stent Thrombosis: Consult cardiology and refer to the CPO.

Consult Cardiology and Refer to PEC 14 days prior to procedure for antiplatelet management for:
Surgery required prior to minimum DAP
Any episodes of stent thrombosis

3. For urgent surgery or patient deemed high risk of thrombosis, consider intravenous antiplatelet bridge therapy and Cardiology Consult.
4. If minimum antiplatelet duration met and patient does not have high risk factors above, stop antiplatelet according to the table below:

Antiplatelet	Maximum Holding Time
Clopidogrel	5 days
Prasugrel	7 days
Ticagrelor	5 days

5. Continue low-dose aspirin (81 mg) throughout the periprocedural period for all patients, except patients at high risk for bleeding.

High Bleed Risk- Aspirin may be held for maximum of 5 days
Intracranial Procedures
Posterior Chamber of eye
Spinal Canal

6. Post-operative initiation of antiplatelet therapy should begin as soon as adequate hemostasis is achieved. Patients can be restarted on their home dual antiplatelet therapy. A loading dose of their antiplatelet can be considered.

Appendix G: Surgical Blood Order Schedule

SURGICAL BLOOD ORDER SCHEDULE

Cardiac Surgery

Case Category	Rec
Heart or lung transplant	T/C 4U
Minimally invasive valve	T/C 4U
Revision sternotomy	T/C 4U
CABG/valve	T/C 4U
Open ventricle	T/C 4U
Assist device	T/C 4U
Cardiac/major vascular	T/C 4U
Lead extraction	T/C 4U
CABG	T/C 2U
Cardiac wound surgery	T/C 2U
Percutaneous cardiac	T/C 2U
Pericardium	T/C 2U
Valve	T/C 2U
AICD/pacemaker placement	T/S

General Surgery

Case Category	Rec
AP resection	T/C 2U
Intra-abdominal GI	T/C 2U
Whipple or pancreatic	T/C 2U
Liver resection - major	T/C 2U
Retroperitoneal	T/C 2U
Substernal	T/C 2U
Liver resection - minor	T/S
Bone marrow harvest	T/S
Hernia – Ventral/Incisional	T/S
Hernia – Inguinal/Umbilical	No Sample
Appendectomy	No Sample
Abdomen/chest/soft tissue	No Sample
Lap. or open cholecystectomy	No Sample
Thyroid/parathyroid	No Sample
Central venous access	No Sample
Any Breast – except w/flaps	No Sample

Gynecological Surgery

Case Category	Rec
Uterus open (radical)	T/C 2U
Open pelvic	T/C 2U
Uterus/ovary open	T/S
Total vaginal hysterectomy	T/S
Hysterectomy robot/lap	T/S
Cystectomy robotic assisted	T/S
Cystoscopy	No Sample
External genitalia	No Sample
GYN cervix	No Sample
Hysteroscopy	No Sample
Superficial wound	No Sample

Neurosurgery

Case Category	Rec
Thoracic/Lumbar/Sacral fusion	T/C 2U
Spine tumor	T/C 2U
Intracranial aneurysm	T/C 2U
Posterior cervical spine fusion	T/C 1U
Intracranial tumor	T/C 1U
Laminectomy/discectomy	T/S
Spine hardware removal/biopsy	T/S
ACDF	T/S
Extracranial	No Sample
Nerve procedure	No Sample
CSF/shunt procedure	No Sample

Updated Feb. 18, 2023

Obstetrics

Case Category	Rec
Complex Cesarean (Accreta, Percreta, Previa, etc.)	T/C 4U
Repeat Cesarean	T/C 2U
Routine Primary Cesarean	T/S
Vaginal Delivery	T/S
D&E / Genetic Termination	T/S
D&C	No Sample
Tubal Ligation	No Sample
Cerlage	No Sample

Orthopedic Surgery

Case Category	Rec
Thoracic/Lumbar/Sacral fusion	T/C 4U
Pelvic orthopedic	T/C 4U
Open hip	T/C 2U
Femur open (fracture)	T/C 2U
Above/below knee amputation	T/C 2U
Total hip arthroplasty	T/S
Humerus open	T/S
Fasciotomy	T/S
Shoulder Incision & Drainage	T/S
Tibial/fibular	T/S
Total knee replacement	T/S
Shoulder open	T/S
Knee open	T/S
Thigh soft tissue	No Sample
Ortho external fixation	No Sample
Peripheral nerve/tendon	No Sample
Lower extremity I&D	No Sample
Hand orthopedic	No Sample
Upper extremity arthroscopy	No Sample
Upper extremity open	No Sample
Podiatry/Foot	No Sample
Hip closed/percutaneous	No Sample
Lower extremity arthroscopic	No Sample
Shoulder closed	No Sample
Tibial/fibular closed	No Sample

Otolaryngology Surgery

Case Category	Rec
Laryngectomy	T/C 2U
Facial reconstruction	T/C 2U
Cranial surgery	T/C 2U
Carotid body tumor	T/C 2U
Radical neck dissection	T/S
Mandibular surgery	T/S
Neck dissection	T/S
Mastoidectomy	No Sample
Parotidectomy	No Sample
Facial plastic	No Sample
Oral surgery	No Sample
Sinus surgery	No Sample
Thyroid/parathyroidectomy	No Sample
Suspension laryngoscopy	No Sample
Bronchoscopy	No Sample
Cochlear implant	No Sample
EGD	No Sample
External ear	No Sample
Inner ear	No Sample
Tonsillectomy/adenoidectomy	No Sample
Tympanomastoid	No Sample

Thoracic Surgery

Case Category	Rec
Esophageal open	T/C 2U
Sternal procedure	T/C 2U
Chest wall	T/C 2U
Thoracotomy	T/C 2U
Pectus repair	T/C 2U
VATS	T/S
Mediastinoscopy	T/S
EGD/FOB	No Sample
Central venous access	No Sample

Urology

Case Category	Rec
Cystoprostatectomy	T/C 2U
Urology open	T/C 2U
Nephrectomy open	T/C 2U
Lap/Robotic kidney/adrenal	T/S
RRP (open)	T/S
Percutaneous nephrolithotomy	T/S
Robotic RRP	No Sample
External genitalia/Penile	No Sample
TURP	No Sample
Cysto/ureter/urethra	No Sample
TURBT	No Sample

Vascular/Transplant Surgery

Case Category	Rec
Thoracoabdominal aortic	T/C 12U
Liver transplant	T/C 6U
Exploratory lap. vascular	T/C 4U
Major vascular	T/C 4U
Liver resection - major	T/C 2U
Kidney pancreas transplant	T/C 2U
Major endovascular	T/C 2U
Peripheral vascular	T/C 2U
Nephrectomy/kidney transplant	T/C 2U
Vascular wound I and D	T/C 2U
Above/below knee amputation	T/S
Organ procurement	T/S
Carotid vascular	T/S
AV fistula	T/S
Peripheral endovascular	T/S
Angio/Arteriogram	No Sample
Peripheral wound I&D	No Sample
1st rib resection/thoracic outlet	No Sample
Superficial or skin	No Sample
Foot/toe amputation/debride	No Sample
Central venous access	No Sample

If the procedure you are looking for is not on this list, then choose the procedure that most closely resembles that procedure.

***Emergency Release blood is available for ALL cases and carries a risk of minor transfusion reaction of 1 in 1,000 cases.**

Appendix H: Medication Use Before Surgery

THIS LIST IS NOT ALL INCLUSIVE The decision to proceed with surgery is not always based on whether a medication was taken or held on the day of surgery. Utilize patient risk and urgency of scheduled surgery in your decision-making.

CARDIOVASCULAR

Beta Blockers **(Metoprolol, Atenolol, Carvedilol, Nadolol, Bisiprolol, Sotolol, etc.)**

- Continue and TAKE the morning of surgery

Calcium Channel Blockers **(Nifedipine, Diltiazem, Amlodipine, Verapamil, etc)**

- Continue and TAKE the morning of surgery

ACE Inhibitors **(ACEi)** and Angiotensin Receptor Blockers **(ARB) (Captopril, Lisinopril, Benazepril, Enalapril, Ramipril, Losartan, Valsartan, Irbisartan, Candasartan, etc.)**

- Continue through the evening before surgery. HOLD the morning of surgery for all patients, however, ask the patient to bring the medication in the prescription bottle on the morning of surgery.

Diuretics (Hydrochlorothiazide (HCTZ), Furosemide, Chlorthalidone, Amiloride, etc.)

- Continue through the evening before surgery. HOLD the morning of surgery.
- EXCEPTION: If taking for CHF, the patient should TAKE the morning of surgery

Nitrates **(Imdur, Isosorbide, Nitroglycerin Patch)**

- Continue and TAKE (or wear patch) the morning of surgery

Cardiac Rhythm Medications **(Digoxin, Amiodarone, Flecanide, Quinidine)**

- Continue and TAKE the morning of surgery

Other Blood Pressure Medications

- **Hydralazine**: Continue and TAKE the morning of surgery
- **Clonidine**: Continue and TAKE the morning of surgery
- **Blood Pressure Combination medications**: If these combinations have an ACEi or ARB as part of the combination, have the patient HOLD the morning of surgery and bring with them to the hospital. All others, patients should take the morning of surgery

Statins and Cholesterol Medications **(Simvastatin, Atorvastatin, Crestor, Lovastatin, Vytorin, Fenofibrate, etc)**

- Continue and TAKE the morning of surgery

Appendix H: Medication Use Before Surgery (continued)

BLOOD THINNERS

Aspirin

- Patients taking Aspirin because they have a Coronary Stent should remain on Aspirin 81mg during the perioperative period and should TAKE the morning of surgery. The only exceptions are procedures that have a high risk of bleeding: Intracranial procedures; surgeries involving the Spinal Canal and Posterior Chamber of the Eye procedures. If the patient has stopped their aspirin and are not having a surgery in the Exception Category, please make sure the surgeon is aware they take Aspirin 81 mg because they have a coronary stent, get their OK to restart the Aspirin and communicate that to the patient. If the patient was taking 325 mg Aspirin and stopped, have them restart at 81mg.

- Patients taking Aspirin only for prophylaxis or pain, should follow instructions regarding Aspirin that they were given by their surgeon and if any questions direct them to the surgeon's office.

Prescription Antiplatelet Medications **(Plavix (Clopidogrel), Prasugrel, Ticagrelor)**

- Patients should have received instructions from their surgeon and/or Cardiologist regarding when to stop preoperatively. NONE of these medications should be taken the morning of surgery unless the surgeon has specifically instructed the patient to remain on such medications (i.e., Vascular surgical procedures).

Oral Anticoagulants **(Warfarin/Coumadin, Pradaxa, Xarelto, Eliquis, etc)**

- Patients should have received instructions from their surgeon and/or PCP or Cardiologist regarding when to stop preoperatively. NONE of these medications should be taken the morning of surgery.

Low Molecular Weight Heparin **(Lovenox)**

- Stop per surgeon's instructions. HOLD morning of surgery

PULMONARY

Asthma and COPD Medication **(Singulair, and ALL inhalers)**

- Continue and TAKE the morning of surgery and bring any inhalers on day of surgery

Pulmonary Hypertension Medications **(Sildenafil, Tadalafil, Vardenafil, Flolan, etc)**

- Continue and TAKE the morning of surgery

ENDOCRINE/HORMONAL

Insulin (See Table in Appendix I; for Insulin Pumps see Appendix I)

Oral Diabetic Agents (See Table in Appendix I)

Thyroid Medications **(Synthroid (Levothyroxine), Armour Thyroid, Methimazole)**

- Continue and TAKE the morning of surgery

Steroids **(Prednisone, Cortef, etc.)**

- Continue and TAKE the morning of surgery

Gout Medications **(Allopurinol only)**

- Continue and TAKE the morning of surgery

Appendix H: Medication Use Before Surgery (continued)

BONE AND CALCIUM DISORDER MEDICATIONS

- HOLD bisphosphonates the morning of surgery
- Parathyroid hormone, calcimimetics, calcitonin, and denosumab: TAKE morning of surgery

Aromatase Inhibitors **(Anastrozole, letrozole, etc)**

- Continue and TAKE the morning of surgery

Selective Estrogen Receptor Modulators **(Tamoxifen, etc)**

- Discuss use with surgeon (increased risk for wound complication and VTE risk if continued)

CENTRAL NERVOUS SYSTEM

Alcohol antagonist **(Disulfiram, Antabuse)**

- HOLD 14 days before general anesthesia. Restart as soon as possible. Can cause oversedation if used with benzodiazepines. If alcohol is used it can cause a toxic reaction with flushing, dyspnea etc.

Anticonvulsants **(Dilantin, Tegretol, Keppra, Lamictal, Trileptal, Depakote, etc.)**

- Continue and TAKE the morning of surgery

Antidepressants **(Prozac, Paxil, Zoloft, Celexa, Lexapro, Pristiq, Cymbalta, Effexor, Wellbutrin etc.)**

- Continue and TAKE the morning of surgery

Antianxiety Medication **(Lorazepam, Diazepam, Alprazolam, Clonazepam)**

- Continue and TAKE the morning of surgery

Antipsychotics **(Risperidal, Haldol, Geodon, Serequel, Abilify, etc)**

- Continue and TAKE the morning of surgery

Lithium

- Continue and TAKE the morning of surgery

Parkinson's Medications **(Sinemet (Carbadopa/Levadopa)**

- Continue and TAKE the morning of surgery

Sleeping Medications

- May be taken the evening before surgery if needed

ADD/ADHD Medications

- HOLD the morning of surgery

Narcolepsy Medications **(Modafinil, Armodafinil, amphetamines and methylphenidate)**

- Continue and TAKE the morning of surgery.
- Notify OR schedulers of the patient and that they will continue stimulants

Opiate Antagonists

- **Naltrexone**: Hold for 48 hours before surgery
- **Methylnaltrexone**: Hold for 24 hours before surgery

GASTROINTESTINAL

Gastroesophageal Reflux (GERD) Medications **(Ranitidine, Prilosec, Nexium, Prevacid, etc.)**

- Continue and take the morning of surgery

Anti-nausea Medications **(Ondansetron, Metoclopramide, Phenergan, etc.)**

- Continue and take the morning of surgery

Appendix H: Medication Use Before Surgery (continued)

RENAL

Renal vitamins **(Phosphate binders, iron, erythropoietin, etc.)**

- Continue up through the day before surgery then HOLD the morning of surgery

UROLOGY/ GYNECOLOGY

Alpha-1 Adrenergic Agonists **(Flomax, Doxazosin, etc.)**

- Continue and TAKE the morning of surgery

Anticholinergic Bladder Dysfunction medications AND Mirabegron **(Oxybutynin, etc,)**

- HOLD the morning of surgery

PDE-5 Inhibitors **(sildenafil, tadalafil, etc.)**

- **HOLD** for THREE DAYS before surgery if taken for **BPH** or **Erectile Dysfunction**
- **Continue** and TAKE the morning of surgery if used for **pulmonary hypertension**

Hormonal Medications **(Androgenic hormones, Progesterone and Estrogens)**

- Continue and TAKE the morning of surgery unless otherwise directed to stop at a specific time before surgery by your surgeon.
- Selective estrogen receptor modulators **(SERMs; e.g., toremifene, tamoxifen, and raloxifene)** should be continued both before and on the day of surgery if taken for breast cancer prevention or treatment, but consider the potential for increased wound complication and VTE risk if continued. If SERMs are taken for other indications and additional patient- or surgery-specific risk factors for VTE are present, stop SERMs at least 7 days before surgery.
- Aromatase Inhibitors **(anastrozole, exemestane, and letrozole)** should be continued both before and on the day of surgery, but consider the potential for increased wound complications if continued.

Oral Contraceptives/Birth Control Pill

- Continue and TAKE the morning of surgery

ANALGESICS AND PAIN MEDICATIONS

Narcotics/Opioids **(Codeine, Hydrocodone, Oxycodone, Vicodin, Percocet, Methadone, etc.)**

- Continue and TAKE the morning of surgery

Neuropathic Pain Medications **(Gabapentin, Lyrica)**

- Continue and TAKE the morning of surgery

NSAIDs **(Ibuprofen, Advil, Motrin, Aleve, Naprosyn, Diclofenac, Meloxicam)**

- Should be discontinued at least five days before planned surgery or per surgeon's direction, including topical NSAIDs such as Voltaren gel

Centrally Acting Muscle Relaxants **(Flexeril, Soma, Skelaxin, Robaxin)**

- HOLD the morning of surgery

Antispasmodics **(Baclofen, Tizanidine)**

- Continue and TAKE as needed only on the morning of surgery

Appendix H: Medication Use Before Surgery (continued)

IMMUNOSUPRESSANTS/ANTI-REJECTION MEDICATIONS

Prednisone, Medrol, Tacrolimus, Cellcept, Sirolimus, etc.

- Continue and TAKE the morning of surgery

Nonbiologic DMARDs **(methotrexate, sulfasalazine, Imuran, Plaquenil, etc.)**

- Continue and TAKE the morning of surgery

Biologic DMARDs **(Rituximab, etc.)**

- Follow prescribing providers recommendation

VITAMINS/SUPPLEMENTS

Multivitamins Containing Vitamin E and Dedicated Vitamin E

- Stop two weeks before surgery

Dietary Supplements **(Fish Oil, COQ10, Garlic, Gingko, Ginseng, Glucosamine, Turmeric, etc.)**

- Stop two weeks before surgery

Weight Loss Medications **(OTC or Prescribed such as phentermine)**

- Stop four days before surgery.

***Reference**: Preoperative Management of Surgical Patients Using Dietary Supplements: Society for Perioperative Assessment and Quality Improvement (SPAQI) Consensus Statement

MISCELLANEOUS MEDICATIONS

Allergy Medications **(Allegra, Claritin, Zyrtec)**

- TAKE if needed the morning of surgery
- Nasal Sprays (Nasacort, Flonase) and Eye Drops are okay to take
- Do **NOT** take decongestants/allergy medication containing pseudoephedrine on the day of surgery (Allegra-D, Mucinex-D, etc).

Migraine Medications

- Daily Prophylactic Medications (**Topamax, Propranolol**)
  - Continue and use the morning of surgery
- As needed "triptans" (**Sumatriptan, Rizatriptan**)
  - HOLD the morning of surgery
- Calcitonin Gene Related Peptide Receptor Antagonists (**Ajovy, Emgality, Aimovig**)
  - Continue and use the morning of surgery

Nicotine Cessation Products

- Nicotine Patch
  - Remove the patch the day before surgery
  - The patient can use nicotine lozenges the day before surgery while the patch is off (as long as smoking/nicotine cessation is not a pre-op requirement)
- **NO** nicotine-containing products should be used **on the day of surgery**

Appendix I: Preoperative Diabetic Management

General Considerations for the Diabetic Patient:

- Schedule insulin-dependent diabetic patients early in the day (by noon). If unable, please have patient arrive at hospital by 9 am regardless of the time of their surgery. Instruct the patient to bring their Glucometer with them. The patient likely will not be able to be taken back to the PREP area any earlier but is safer to be at the hospital if they were to develop symptomatic hypo/hyperglycemia.
- Preoperative evaluation may include the level of glycemic control, i.e., by blood glucose (BG) levels and glycosylated hemoglobin A1c. Patients with an A1c > 8.5% may benefit from further evaluation prior to elective surgery to reduce surgical site infections.
- Optimal intraoperative BG level: 180 mg/dL or less
- Elective cases should be postponed in patients with fasting BG>400 mg/dl or in patients with significant complications of hyperglycemia such as severe dehydration, ketoacidosis, and hyperosmolar non-ketotic states. Postponing elective cases is always up to the discretion of the provider.

Table 1 Pre-Operative Guidelines for Diabetic Oral Medications and Non-Insulin Injectables

Type of Medication (non-inclusive list)	**DAY & EVENING BEFORE Surgery**	**MORNING of Surgery**
Special Precautions – SGLT2 ● *SGLT2 Inhibitors:* empagliflozin (Jardiance), canagliflozin (Invokana), dapagliflozin (Farxiga), **Ertugliflozin (Steglatro) ● *SGLT2 Inhibitors in combination:* Invokamet, Xigduo XR, Qtern, Qternmet, Synjardy, Trijardy, Glyxambi, **Stegluromet, **Steglujan	**Empagliflozin, Canagliflozin, Dapagliflozin, and their combinations should be stopped 3 days before surgery.** ****Ertugliflozin and its combinations should be stopped 4 days prior** Advise patients to check their FBS each morning and follow a strict ADA diet during this time to avoid hyperglycemia. Instruct them to reach out to their prescribing physician for guidance if they develop hyperglycemia approaching 300	Hold If unable to stop SGLT2 inhibitor within recommended timeframe prior to surgery, monitor for euglycemic ketoacidosis, especially in major surgeries (cardiothoracic/abdominal/pelvic). Consider serum CO2, serum/plasma ketones, and/or ABG/VBG in post-op period as warranted.
Special Precautions - Oral Agents (examples, not -inclusive) ● *Biguanides:* metformin (Glucophage)* ● *Sulfonylureas*: glyburide (DiaBeta, Glynase), glimepiride (Amaryl), glipizide (Glucotrol) ● *Alpha glucosidase inhibitors*: acarbose (Precos), miglitol (Glyset) ● *Thiazolidinediones*: pioglitazone (Actos) ● *Meglitinides:* nateglinide (Starlix), repaglinide (Prandin) ● *DPP-4 Inhibitors*: Sitagliptin (Januvia), alogliptin (Nesina), saxagliptin (Onglyza), linagliptin (Tradjenta)	Continue to take. *If the patient has renal dysfunction or is likely to receive IV contrast, you may want to discontinue metformin 24-48 hours before surgery.	Hold
Special Precautions – GLP1 ● **GLP1 analogs:** exenatide (Byetta, Bydureon), liraglutide (Victoza), dulaglutide (Trulicity), semaglutide (Ozempic), lixisenatide (Adlyxin), ● **Amylin analogs:** pramlintide (Symlin) ● **GLP-1/Insulin Combinations:** Soliqua (insulin glargine + lixisenatide), Xultophy (insulin degludec + liraglutide	**Daily dosing**, hold GLP-1 agonists on the day of the procedure/surgery. **Weekly dosing,** hold GLP-1 agonists a **week** before the procedure/surgery	Hold This suggestion is irrespective of the indication (type 2 diabetes mellitus or weight loss), dose, or the type of procedure/surgery. The delay in gastric emptying could be associated with an increased risk of regurgitation and aspiration during anesthesia.

Table 2 Pre-Operative Guidelines for Insulin and Insulin Pumps (non-inclusive list)

Type of Insulin	DAY & EVENING BEFORE Surgery	MORNING of Surgery
Short/rapid-acting Insulin Ex: insulin aspart (Novolog), rapid-acting aspart (Fiasp) insulin lispro (Humalog, Admelog), glulisine (Apidra), regular insulin (Novolin R, Humulin R)	Maintain usual meal plan & insulin dose.	Hold.
Intermediate-Acting Insulin (taken twice daily) Examples: Novolin-N, Humulin-N (NPH),	Take the usual morning dose and 75% of the usual evening dose.	Take 50% of the usual morning dose.
Concentrated Insulin Regular U-500 Insulin (Humulin R U-500)	Maintain the usual insulin dose	Take 50% of the usual morning dose if AM glucose >200
Long-Acting Insulin Examples: glargine (Lantus, Basaglar), detemir (Levemir), U300 glargine (Toujeo), degludec (Tresiba)		
➢ **Taken once daily in the morning**	Take the usual morning dose.	Take 50% of the usual morning dose.
➢ **Taken once daily in the evening**	Take 75% of the usual evening dose.	Do not take any insulin.
➢ **Taken twice daily**	Take the usual morning dose and 75% of the usual evening dose.	Take 50% of the usual morning dose.
Pre-Mixed Insulins (ex. 70/30; 75/25; 50/50) (taken twice daily)	Take the usual morning dose and 75% of the evening dose.	Hold if fasting glucose AM of surgery is <200 OR Take 50% of the usual morning dose if glucose >200 AM of surgery
Insulin Pump *without integrated continuous glucose monitor* OR **Insulin pumps +integrated CGM and a threshold suspend for hypoglycemia feature (Medtronic 530g+Enlite, Medtronic 630 g+Guardian3, Medtronic 670g+Guardian 3 in manual mode, Tandem T-slim+Dexcom)**	Maintain usual meal plan & basal rate.	Maintain basal rate OR 1.if fasting glucose >or equal to 120mg/dL, maintain basal rate 2.if fasting glucose <120mg/dL, set temporary basal to 80%
Insulin pump + integrated CGM with hybrid closed loop technology (ex. Medtronic 670G in auto mode, Tandem + Dexcom with Control IQ)	Maintain usual meal plan and basal Rate/auto mode until the NPO period Begins	During the NPO period, set the temp Target to 150mg/dL (8.3mM)

- ❖ All patients with insulin pumps should be referred to CPO and advised to communicate with their endocrine provider for perioperative insulin recommendations that include
  - ➢ Information regarding glycemic control and current insulin regimen, including basal rates, insulin: carb ratio, and correction factor/insulin sensitivity factor)
  - ➢ Recommendations for dosing of long-acting basal insulin injection before turning off the pump and correction factors for hyperglycemia, in the setting of cases in which the pump will likely be disconnected for an extended time, based on length of case and recovery from anesthesia or other indications, request
- ❖ Provide patient with Perioperative Checklist for Insulin Pumps, Appendix J
- ❖ Guidelines for the Perioperative Management of Insulin Pumps in Adult Patients Appendix K

Appendix J: Perioperative Checklist for Patients with Insulin Pumps Only

Weeks in advance of surgery:

- Discuss with your surgeon that you use an insulin pump
- Inform the endocrinologist/primary diabetes prescriber of your upcoming surgery, please ask for their recommendations for the following:
    1) Appropriate basal rates given your limited oral intake on the day of surgery
    2) if your pump needs to be turned off for an extended period, recommended dosing for long-acting basal insulin injection to give before turning off your pump and correction factors for hyperglycemia
- If you use a continuous glucose monitor and will be hospitalized after surgery, please be aware that insulin dose recommendations will be made based on our hospital-calibrated glucometers
- Please be aware that the hospital policy indicates U-100 concentration insulin should be used for any hospitalized patient with an insulin pump
- You will be able to use your home insulin at the time of admission until that insulin depletes from your pump, subsequently, hospital-supplied insulin will be used

Within 8-24 hours of surgery:

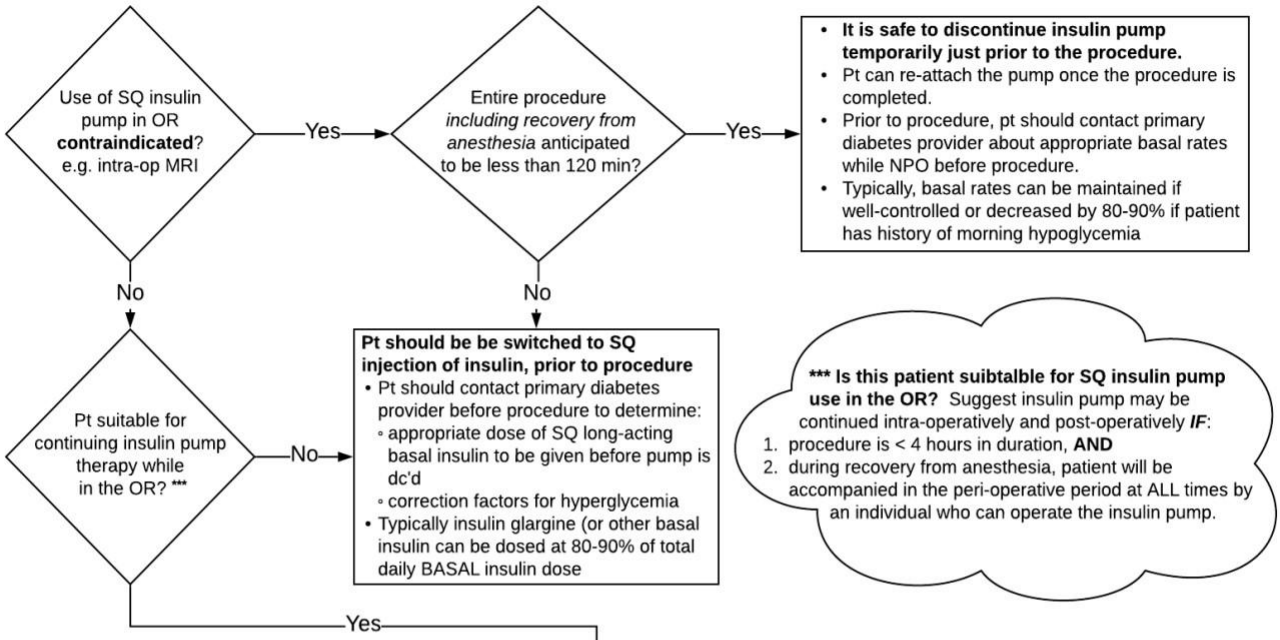
- Please refill the pump reservoir, change the infusion set, and replace the battery
- Ensure the infusion set or continuous glucose monitor is not near the surgical field, move if necessary

Morning of surgery:

- Bring an extra set of pump supplies (infusion set, reservoir, and insulin) in addition to your glucometer and your long-acting insulin pen, if prescribed by your diabetes provider
- Take your blood sugar upon awakening, if low, okay to have apple juice, OMIT breakfast
- Please be prepared to provide information regarding your pump, settings (basal rates/boluses), and type of insulin

To avoid any delays in the start of your procedure, please arrive no later than 9 am, or earlier if directed by your surgeon's office, so that you can monitor your glucose levels in the waiting room and have access to assistance from the nursing staff in the prep area if you become hypo/hyperglycemic

Appendix K: Guideline for the Perioperative Management of Insulin Pumps in Adult Patients



	Day or evening before surgery	Day of surgery
Insulin pumps without integrated continuous glucose monitors (CGM)	Maintain usual meal plan and basal rate	Maintain basal rate OR: 1.If fasting glucose > or equal to 120 mg/dL,maintain basal rate, 2. If fasting glucose < 120 mg/dL, set temp basal to 80%
Insulin pumps+Integrated CGM and a threshold suspend for hypoglycemia feature (Medtronic 530g+Enlite, Medtronic 630 g+Guardian3, Medtronic 670g+Guardian3 in manual mode, Tandem T-slim+Dexcom)		
Insulin pump+ integrated CGM with hybrid closed loop technology (Medtronic 670G n auto mode, Tandem +Dexcom with Control IQ)	Maintain usual meal plan and basal rate/auto mode, until NPO period begins	During NPO period, set temp target to 150 mg/dL (8.3mM)

Appendix K: Guideline for the Perioperative Management of Insulin Pumps in Adult Patients (Continued)

If a patient is suitable for continuing insulin pump perioperatively, please take the following steps as well:

a. **Obtain information regarding** glycemic control and current insulin regimen from diabetes care provider (including basal rates, insulin: carb ratio, and correction factor/insulin sensitivity factor)
b. **Ask the patient to fill** insulin pump policy (MDU017). This form should be brought to the pre-op area on the day of the procedure.
c. **Schedule patient for FIRST case** of the day
d. **Remind patient to**:
    - Refill the pump reservoir and change the infusion set 8-24 hours before surgery
    - Make sure the infusion set is not near the surgical field; move if necessary
    - Replace the battery
    - Bring an EXTRA set of pump supplies (infusion set, reservoir, and insulin)
    - Take blood sugar upon awakening in AM; if low, apple juice okay. Omit breakfast.

Post-operative management

If a patient is to be admitted to the hospital after surgery and the patient's clinical status does not allow compliance with the insulin pump policy (MDU017), please see Appendix D of the insulin pump policy for assistance in converting to subcutaneous insulin. **It is critically important that patients with type 1 diabetes are not without basal insulin.**

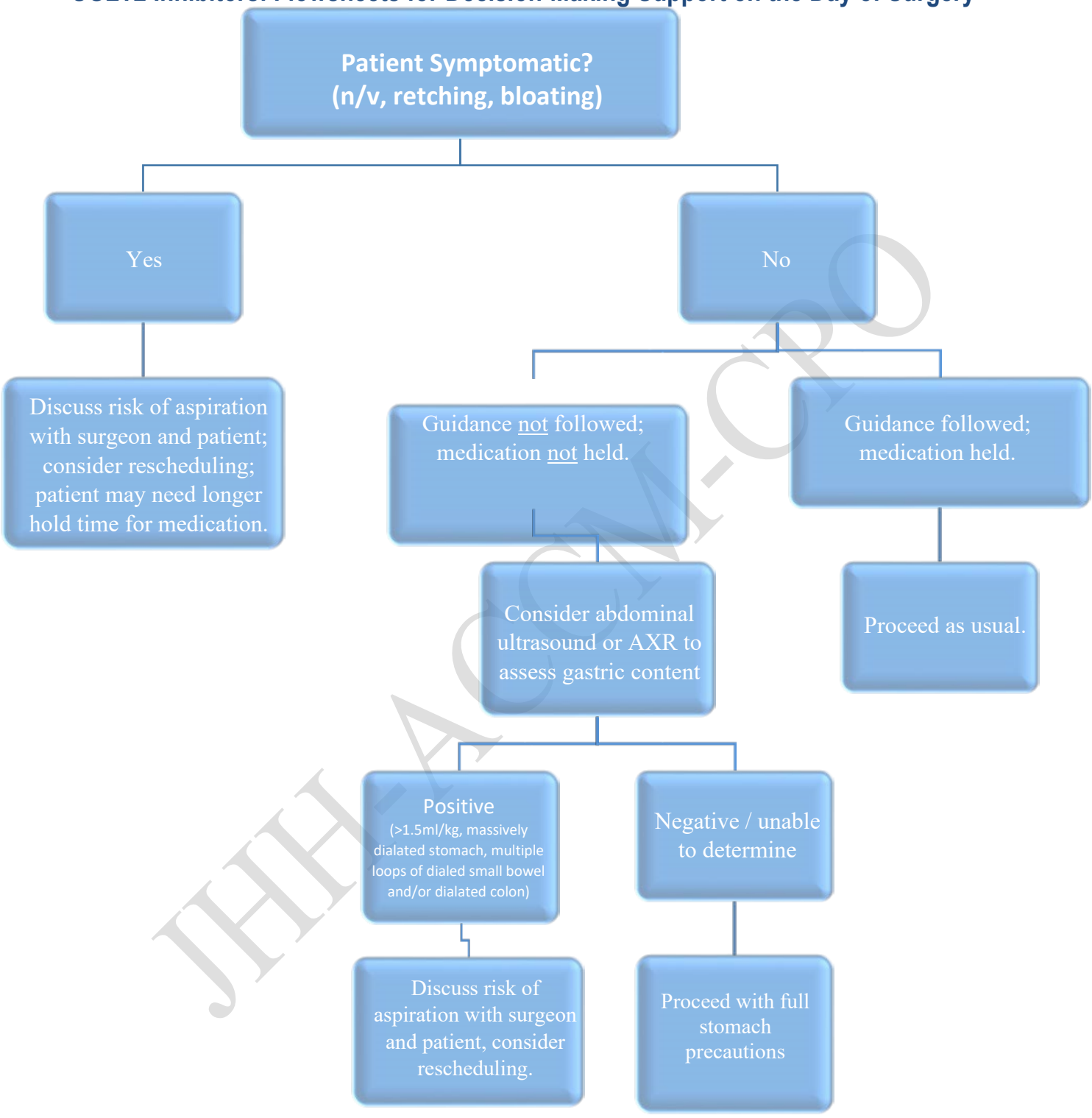
If a patient is to be admitted to the hospital after surgery and may be compliant with the insulin pump policy, inpatient diabetes management service (IDMS) should be consulted.

If a patient is to be discharged home, the patient can resume the usual insulin pump settings once the normal diet is resumed.

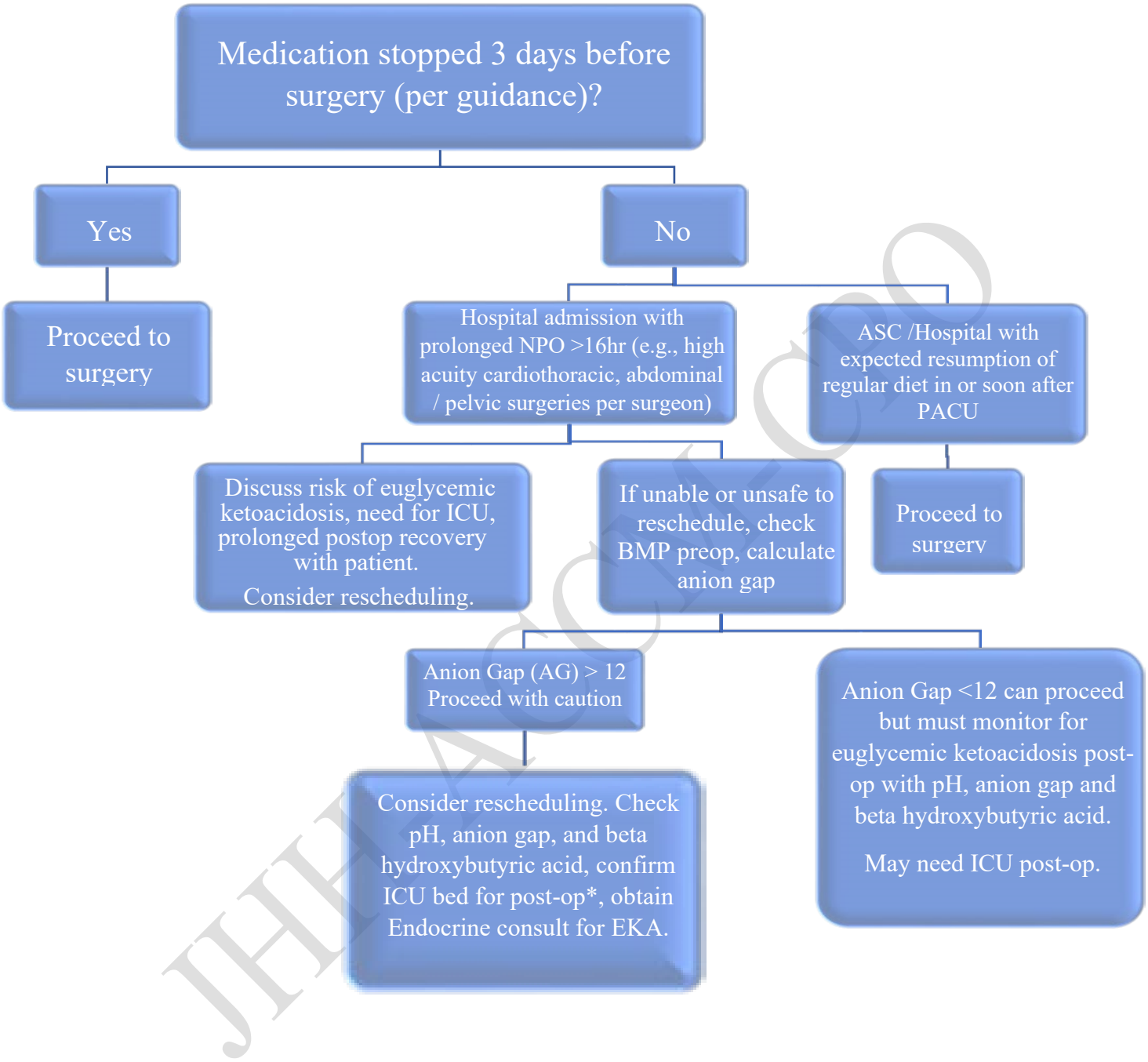
Continuous glucose monitors: for hospitalized patients, it is recommended that insulin dose recommendations be made based on POC blood glucose measurements from a hospital-calibrated glucometer. Glucose values from CGMs have not been validated broadly in the hospitalized setting. If the patient insists that they will not get a fingerstick to check POC glucose, we suggest advising the patients of the risk of doing so and documenting that this was discussed with the patient. In mid-2020, we anticipate having waivers available in the insulin pump policy (MDU017) that patients will be required to sign.

References:
Perioperative insulin guidelines in children (developed by Dr Samuel Vanderhoek and Risa Wolf); Boyle ME et al. Guidelines for Application of Continuous Subcutaneous insulin Infusion (Insulin Pump) Therapy in the Perioperative Period. *J Diabetes Sci Technol 2012;6(1):184-190;*Duggan EW et al. Perioperative Hyperglcyemia Management: An Update. *Anesthesiology 2017; 126:547–60;*
PROTOCOL FOR HYBRID CLOSED LOOP TECHNOLOGY Situations Requiring Special Consideration and Resource Documents Second Edition MiniMed™ 670G System Medical Education: https://hcp.medtronichttps://hcp.medtronic-diabetes.com.au/sites/default/files/au_670g_hcp_protocol_for_hcl_therapy.pdfdiabetes.com.au/sites/default/files/au_670g_hcp_protocol_for_hcl_therapy.pdf

Appendix L: Special Precautions to Consider for Patients Taking GLP-1 Receptor Agonists and SGLT2 Inhibitors: Flowsheets for Decision-Making Support on the Day of Surgery



Appendix L: Special Precautions to Consider for Patients Taking GLP-1 Receptor Agonists and SGLT2 Inhibitors: Flowsheets for Decision Making Support on Day of Surgery



*Recommend cancellation if no ICU bed available; high-intensity post-op management may be required.

Appendix M: Cannabis and Tobacco Use Considerations

Cannabis Use:

- Discourage cannabis inhalation within 72 hours of general anesthesia given the potential for long-lasting heart rate effects
- To reduce the risk of perioperative myocardial infarction, consider delaying surgery for a minimum of 2 hours after cannabis smoking
- Insufficient evidence to suggest that non-smoked routes of administration adversely affect the cardiovascular system
- The respiratory effects of smoking cannabis appear to parallel those of smoking tobacco. Counsel patients on the potential risks of respiratory complications and encourage them to quit smoking any time before surgery or a minimum of 72 hours beforehand (to decrease uvular edema).
- See QR code for PowerPoint with additional information and attached references.

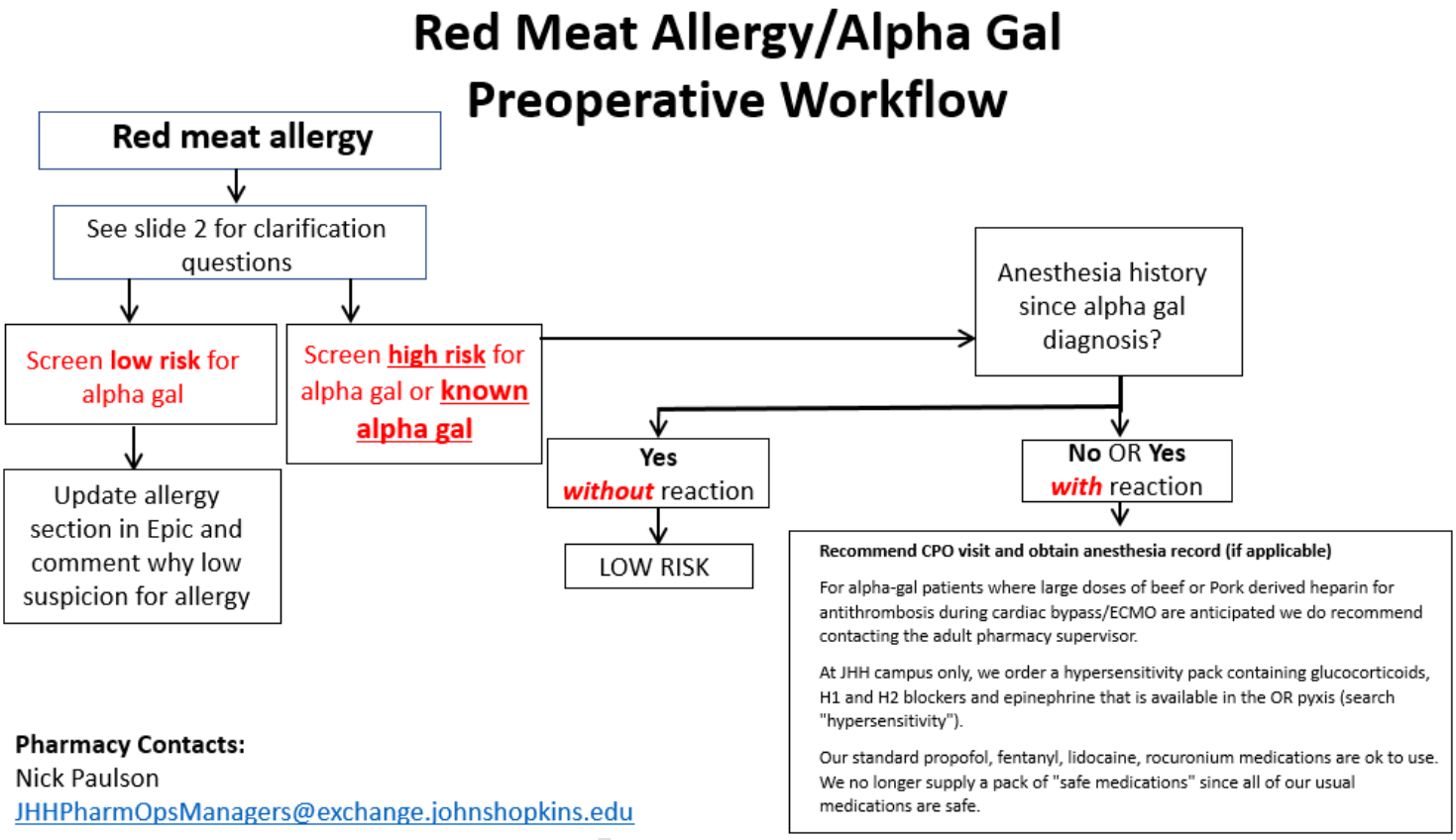
Tobacco Use:

If the patient endorses smoking nicotine, they are advised to quit smoking as soon as possible before surgery and at least one week afterward to decrease the chances of a wound infection or respiratory complication. Patients can be seen by their PCP for assistance quitting and/or be provided with the following number to a toll-free tobacco quit line which is a free program that assists people with quitting.

1-800-QUIT NOW/1-800-784-8669

Patients should not use inhaled nicotine products the day before or the day of surgery.

Appendix N: Red Meat Allergy/Alpha Gal Preoperative Workflow



Pharmacy Contacts:
Nick Paulson
JHHPharmOpsManagers@exchange.johnshopkins.edu

Screening Questions to Ask:

1) Describe the allergy
   - When was it identified?
   - What was the reaction and did that include any signs of anaphylaxis i.e. rash, itching, swelling?
   - How quickly did symptoms develop after exposure to the meat products
2) Have they previously had GA, especially since the allergy developed? If so, where can we obtain these records?
3) Do they tolerate medications in a gelatin capsule? See slide 3 for medications that increase suspicion for Alpha Gal.
4) Do you continue to eat meat?

High risk = No longer able to eat red meat/completely avoids red meat due to reaction; signs of anaphylaxis; known history of Lone Star tick bite with diagnosis of alpha gal and/or new onset reaction to medications on slide 3 and/or red meat afterwards.

Alpha gal-Letter for Providers.docx

Alpha Gal Update July 25.pptx

Appendix O: Elderly Medication Considerations

Potentially Inappropriate Medications (PIM) for Elderly Patients

PIM	Recommendations, Rationale
Anticholinergics ▪ Promethazine ▪ Scopolamine ▪ Hydroxyzine	• Avoid • Highly anticholinergic; clearance reduced with advanced age; risk of confusion, delirium, dry mouth, constipation, and other anticholinergic effects or toxicity. Use of diphenhydramine in situations such as acute treatment of severe allergic reaction may be appropriate.
Amiodarone	• Avoid as first-line therapy for atrial fibrillation unless the patient has heart failure or substantial left ventricular hypertrophy • May be reasonable first-line therapy in patients with concomitant heart failure or substantial left ventricular hypertrophy if rhythm control is preferred over rate control
Benzodiazepines **Short- and intermediate acting:** ▪ Lorazepam ▪ Midazolam **Long-acting:** ▪ Diazepam	• Avoid • Older adults have increased sensitivity to benzodiazepines and decreased metabolism of long-acting agents; increased risk of cognitive impairment, falls, fractures, and motor vehicle crashes in older adults. Potential of inducing or worsening delirium. May be appropriate for seizure disorders, benzodiazepine withdrawal, ethanol withdrawal, severe generalized anxiety disorder.
Corticosteroids	• If needed, use the lowest possible dose for the shortest duration and monitor for delirium.
Metoclopramide	• Avoid, unless for gastroparesis with duration of use not to exceed 12 weeks except in rare cases • Can cause extrapyramidal effects, including tardive dyskinesia; risk may be greater in frail older adults and with prolonged exposure. Dopamine-receptor antagonists with potential to worsen parkinsonian symptoms

PIM	Recommendations, Rationale
Antipsychotics	• Avoid, except for use in psychiatric disease or as a short-term antiemetic. Restrict use in delirium for failure of nonpharmacologic interventions AND patient presents harm to self or others. Increased risk of stroke, cognitive decline, mortality in patients with dementia.
Pain Medications	
Gabapentin	• Reduce dose or avoid when GFR <60 • Avoid in patients with ESRD. Increased risk of oversedation.
Meperidine	• Avoid • Oral analgesic not effective in dosages commonly used; may have higher risk of neurotoxicity, including delirium, than other opioids; safer alternatives available
NSAIDs	• Avoid when GFR <30 (stage IV–V CKD) or in AKI • Use caution with repeated doses. Preferred PRN instead of scheduled. Increased risk of gastrointestinal bleeding or peptic ulcer disease, AKI and hypertension. Risks are dose-related.
Indomethacin	• Of all NSAIDS, indomethacin has the most adverse effects, including higher risk of adverse CNS effects
Skeletal Muscle Relaxants Methocarbamol, Cyclobenzaprine	• Avoid • Anticholinergic adverse effects, sedation, increased risk of fractures.

Object Drug and Class	Interacting Drug and Class	Recommendations, Risk Rationale
Opioids	**Benzodiazepines**	• Avoid. Increased risk of overdose
Opioids	**Gabapentin, pregabalin**	• Avoid; exceptions are when transitioning from opioid therapy to gabapentin or pregabalin, or when using gabapentinoids to reduce opioid dose, although caution should be used in all circumstances. Increased risk of severe sedation related adverse events, including respiratory depression and death
Anticholinergic	**Anticholinergic**	• Avoid, minimize number of anticholinergic drugs. Increased risk of cognitive decline
Corticosteroids, oral or parenteral	**NSAIDs**	• Avoid; if not possible, provide gastrointestinal protection. Increased risk of peptic ulcer disease or gastrointestinal bleeding

(QR Code for PIM flyer)

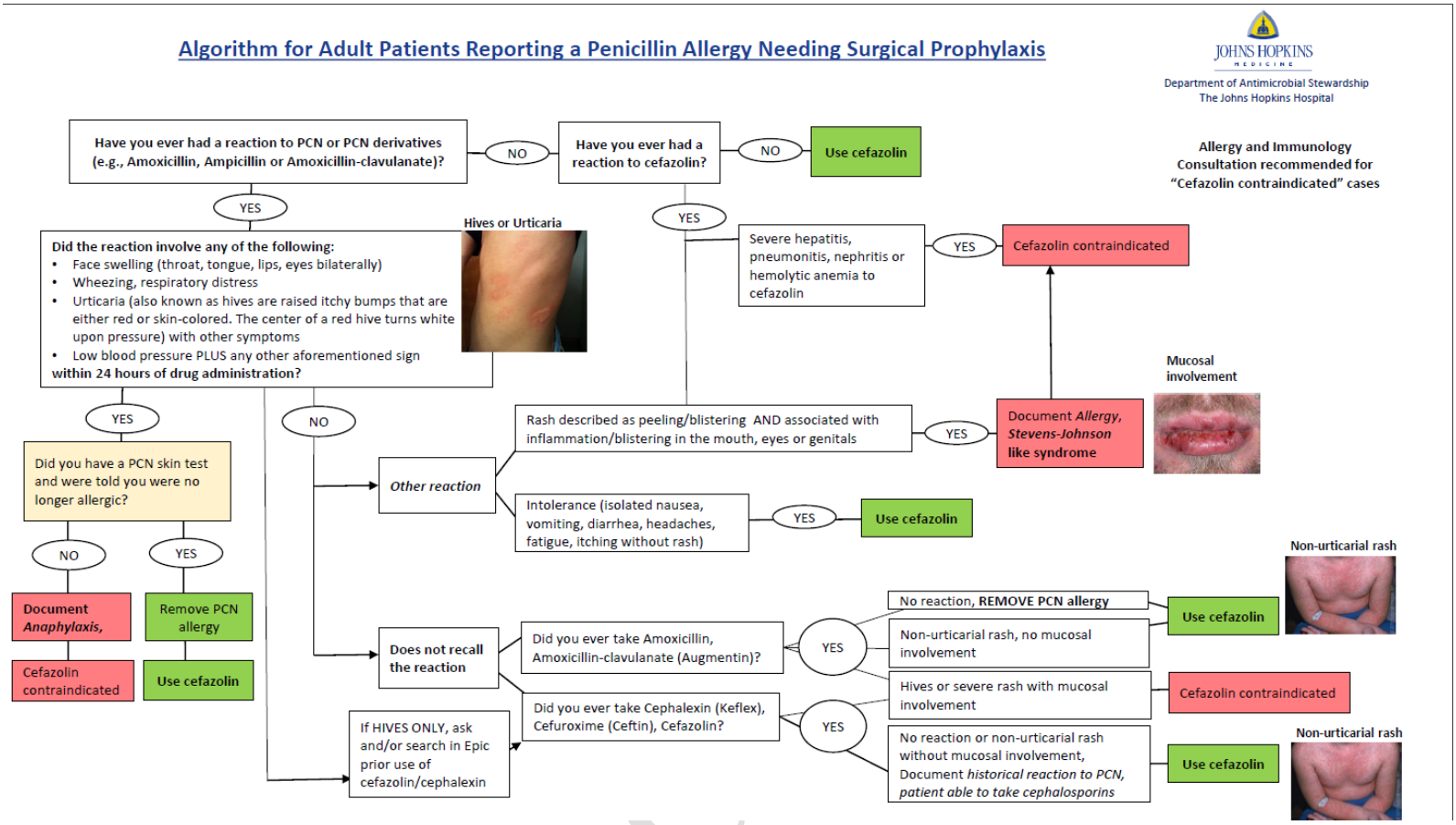
Appendix P: Endoscopy ASC/Hospital Scheduling Criteria

ASC / HOSPITAL CRITERIA *including* SIBLEY						
Medical Condition	ASC	Sibley	Sibley (Clinic Visit Req'd)	Hospital	Cardiac Anes	Anesthesia Consult
GENERAL					JHH – Tues / Fri	
BMI > 40		✓		✓		
BMI > 60 *(Sibley only)*			✓			
Age 80 or Older		✓		✓		
ASA 4 or Greater		✓		✓		
Wheelchair-bound / Limited ADLs / Quadriplegic		✓		✓		
Nursing home resident		✓		✓		
Mentally Challenged / Developmental Delay / Cognitive Impairment		✓		✓		
Recreation Drug Use		✓		✓		
ETOH Abuse	✓	✓				
Long-term pain management	✓	✓				
Pregnancy		✓		✓		
Organ Transplant		✓		✓		
Difficult IV Access		✓		✓		
Cancer (Oral Chemotherapy only)	✓	✓				
Chemotherapy (Active IV)		✓		✓		
Medications > 5 (Excluding sleeping pills or anti-anxiety pills)	✓	✓				
ANESTHESIA / AIRWAY	ASC	Sibley	Sibley (Clinic Visit Req'd)	Hosp	Cardiac Anes	CPO Visit
Known or Suspected Difficult Airway			✓	✓		✓
Personal or Family history of malignant hyperthermia (First case of the Day)			✓	✓		✓
Any difficulties with anesthesia			✓	✓		✓
NEUROLOGIC	ASC	Sibley	Sibley (Clinic Visit Req'd)	Hosp	Cardiac Anes	CPO Visit
Seizures / Epilepsy (If episode within 6 months/pt. does not know)			✓	✓		✓
Seizure / Epilepsy (Well-controlled)	✓	✓				
Stimulators			✓	✓		
Parkinson's		✓		✓		
Cerebral Aneurysm (Burst, clipped or coiled)	✓	✓				
Cerebral Aneurysm (secured and unsecured)			✓	✓		
CVA / Stroke – EMBOLIC (Outside of year, new baseline, unchanged)	✓	✓				
CVA / Stroke –ISCHEMIC		✓		✓		✓
CVA / Stroke – HEMORRHAGIC		✓		✓		✓
CARDIAC CA-consult@jhmi.edu	ASC	Sibley	Sibley (Clinic Visit Req'd)	Hosp	Cardiac Anes	CPO Visit
Stents (within 1 year, after 6 months minimum) REVASCULARIZED AND STABILIZED	✓	✓				
AICD *(Interrogation Report required within 6 months of procedure – 3/8/24)*		✓	*Req'd if info **NOT** in chart or media*	✓		

Pacemaker *(Interrogation Report required within 6 months of procedure – 3/8/24)*	✓	✓	*Req'd if info **NOT** in chart or media*			
MI within 6 months (Needs cardiac clearance from Cardiology)			✓	✓		✓
Pulmonary HTN *(Changed 9/21/22: Severe Pulmonary HTN) [CPO IF RVSP = or > 60 mmHg]*		N/A	N/A	✓	✓	✓
CHF / EF <35% *(Changed 9/21/22: EF 15 – 20%)*		N/A	N/A	✓	✓	
CHF / EF <50%			✓	✓		
Controlled HTN	✓	✓				
Moderate – Severe HTN			✓	✓	✓	
Labile HTN (Multiple Diuretics) / Uncontrolled HTN			✓	✓		✓
AFIB – STABLE ON BLOOD THINNER	✓		✓			
Arrhythmia > 1ST DEGREE BLOCK			✓	✓	✓	
Aortic Dilation (> 4 cm)/ Sclerosis / Aneurysm			✓	✓		
AORTIC Stenosis *(Changed 9/21/22: Severe Aortic Stenosis only)*		N/A	N/A	✓	✓	
Severe Valvular Disease		N/A	N/A	✓	✓	
LVAD		N/A	N/A	✓	✓	
Pre or Post Heart Transplant *(post if transplant failing only – otherwise ok w/o card anesthesia)*		N/A	N/A	✓	✓	
hospitalized or emergency visit for a heart problem within the last 3 months?			✓	✓		✓
POTS (Postural Orthostatic Tachycardia Syndrome) – *will hydrate pt. day of*	✓	✓				
Autonomic Dysreflexia		✓		✓		
TAVR *(No need to wait after a TAVR like you do w/ a PCI/stents, ok to sched & proceed as planned per CPO NP Gauthier)*				✓		
PULMONARY	**ASC**	**Sibley**	**Sibley (Clinic Visit Req'd)**	**Hosp**	**Cardiac Anes**	**CPO Visit**
Requires oxygen supplementation or has dyspnea at rest			✓	✓		
Mixed Apneas *(Apneas with Central episodes) NOT* on CPAP - Severe OSA			✓	✓		✓
• Mild *(with or w/o Central episodes)*	✓	✓				
• Moderate OSA *(if prescribed CPAP non-compliant with central episodes)*				✓		✓
Mild – Moderate OSA	✓	✓				
Central Sleep Apnea		✓		✓		✓
Moderate COPD / Asthma *(daily inhalers AND rescue inhalers)*		✓		✓		
Lung Disease / Nodule / Mass *(new onset – if stable ASC)*		✓		✓		
Dyspnea on Exertion (DOE)			✓	✓		
hospitalized or emergency visit for a lung problem within the last 3 months?			✓	✓		✓
Pre or Post Lung Transplant		N/A	N/A	✓		
Needs Flolan		N/A	N/A	✓		
RENAL	**ASC**	**Sibley**	**Sibley (Clinic Visit Req'd)**	**Hosp**	**Cardiac Anes**	**CPO Visit**
CKD Stg I, II & III	✓	✓				
CKD Stg IV / ESRD / Dialysis			✓	✓		
Pre – Kidney Transplant		✓		✓		
Post Kidney Transplant (Stable – 1 year or greater)	✓	✓				
HEPATIC	**ASC**	**Sibley**	**Sibley (Clinic Visit Req'd)**	**Hosp**	**Cardiac Anes**	**CPO Visit**
Hepatic Steatosis	✓	✓				
Fatty Liver / Non-Alcoholic Fatty Liver Disease	✓	✓				

Hepatitis C	✓	✓				
Cirrhosis		✓		✓		
Pre-Liver Transplant		✓		✓		
Post Liver Transplant (Stable – 1 year or greater)	✓	✓				
GASTROENTEROLOGY	**ASC**	**Sibley**	**Sibley (Clinic Visit Req'd)**	**Hosp**	**Cardiac Anes**	**CPO Visit**
H/O Perforation *(Resolved min 6 mos out can go to ASC)*		✓		✓		
C-Diff (Last case of the day) **Pt has to be off of Abx for 2 wks w/o recurrence of diarrhea*		✓		✓		
Diverticulitis *(6-8 Weeks post flare)*		✓		✓		
Achalasia (EGD)		✓		✓		
Achalasia - Colonoscopy	✓	✓				
Micro-perforation *(GI Visit with NP to verify stable)*						
Fistulas (recto-vag / perianal / vesicolic)	✓	✓				
ENDOCRINE	**ASC**	**Sibley**	**Sibley (Clinic Visit Req'd)**	**Hosp**	**Cardiac Anes**	**CPO Visit**
Diabetes (Schedule before Noon)	✓	✓				
A1C > 10		✓		✓		
GLUCOSE < 300	✓	✓				
HEMATOLOGY	**ASC**	**Sibley**	**Sibley (Clinic Visit Req'd)**	**Hosp**	**Cardiac Anes**	**CPO Visit**
Factor V Leiden			✓	✓		✓
ITP *(Idiopathic Thrombocytopenic Purpura)*			✓	✓		✓
TTP *(Thrombotic Thrombocytopenic Purpura)* *if platelets less than 50K*			✓	✓		✓
Sickle Cell Trait	✓	✓				
Sickle Cell *(*Please make NOTE "should be scheduled as first case of the day if possible.")*			✓	✓		
Hypercoagulable Disorder			✓	✓		✓
Polycythemia Vera			✓	✓		✓
Von Willebrand Disease			✓	✓		✓
Procedures	**ASC**	**Sibley**	**Sibley (Clinic Visit Req'd)**	**Hosp**	**Cardiac Anes**	**CPO Visit**
Therapeutic (ERCP, Fluoro w/ dilation, Banding of varices, EUS, ESD, Enteroscopy, TIF, POEM)		✓		✓		

Appendix Q: Penicillin Allergy Considerations



Allergy Algorithm Surgery10.25.pdf

Patient Allergy Form Interpretation Surgery10.25.pdf

Penicillin allergy Anesthesia Grand Rounds10.25.pdf

Appendix R: When to Contact Cardiac Anesthesia

The information below indicates when cardiac anesthesia should be contacted to see if their involvement in the surgical case is necessary. To contact the cardiac anesthesia team, please e-mail CA-consult@jh.edu.

Parameters for consulting perioperative high-risk cardiovascular disease service

Pulmonary hypertension PLUS one or more of the following:

- PH-specific medications other than diuretics (endothelin receptor antagonists, prostacyclin agonists, PDE5 inhibitors)
- Patients followed in the PH clinic
- TTE with moderate or severe right ventricular dysfunction
- Evidence of volume overload
- PA pressures 2/3 systemic pressures (or RVSP > 60mmHg)
- 6-minute-walk test <300m
- Cardiac index <2.4 by right heart catheterization

Congenital heart disease PLUS one or more of the following:

- History of cyanotic CHD
- Unrepaired defect
- Repaired defect with residual lesion(s)
- Right to left shunt
- Signs of heart failure

Ventricular assist device:

- Any patient with LVAD, RVAD, or BiVAD

Congestive Heart failure PLUS one or more of the following:

- On intravenous heart failure medications
- Listed for heart transplant or getting evaluated for it
- Scheduled for LVAD placement

Coronary artery disease PLUS one or more of the following:

- Ongoing active ischemia
- Myocardium at risk and unable to intervene prior to the procedure PLUS reduced systolic function or change in functional status or signs of heart failure

Valvular heart disease PLUS one or more of the following:

- Severe symptomatic valvular disease that needs intervention but cannot be performed prior to surgery. (e.g., a change in functional status, signs of volume overload, chest pain, syncope/presyncope, and new/worsening SOB/DOE)

Appendix S: Preoperative management of medications used to treat Neurological Disease

Table 1

Recommended Preoperative Management of Multiple Sclerosis/Myasthenia Gravis Medications [a, b]

Medication (brand name)	Preoperative recommendation (continue/hold)	Anesthetic/perioperative medication interaction	Special considerations	Ancillary testing considerations [c]
Glucocorticoids **Prednisone or Prednisolone** **Methylprednisolone**	Continue preoperatively, including take on DOS	Nondepolarizing neuromuscular blockers- resistance and decreased duration of muscle relaxation	Stress dose may be necessary if on high dose steroids and high surgical stress procedure Chronic steroid use may predispose patients to psychosis, hyperglycemia, hypertension, infection, and increased risk of trauma during positioning	Glucose, electrolytes
Interferons **Interferon beta 1a (Avonex, Rebif)** **Peginterferon (Plegridy)** **Interferon beta 1b (Betaseron, Extavia)**	Continue preoperatively, including take on DOS	No anesthetic interactions	Can cause thrombocytopenia, leucopenia Elevated LFTs	CBC, LFTs
Glatiramer acetate (Copaxone, Glatopa)	Continue preoperatively, including on DOS	No anesthetic interactions	Can cause transient elevation of LFTs	LFTs
Monoclonal antibodies				
Natalizumab (Tysabri)	Continue perioperatively	No anesthetic interactions	Risk of PML particularly if positive for JC virus antibody Possible increase LFTs	LFTs
Alemtuzumab (Lemtrada)	Continue perioperatively	No anesthetic interactions	Can cause secondary autoimmune conditions—thrombocytopenia, autoimmune thyroiditis, glomerular nephropathies, autoimmune hepatitis Increases risk for opportunistic infections	Patients who have previously received the medication within 48 months should have a CBC, serum creatinine, thyroid studies, LFTs, and urinalysis with cell count
Ocrelizumab (Ocrevus)	Continue perioperatively	No anesthetic interactions	Increases risk of infections (particularly pneumonia, bronchitis and UTIs) Low risk of PML Potential activation of latent hepatitis B infection	
Rituximab (Rituxan)	Continue perioperatively	No anesthetic interactions	Risk of infections, particularly pneumonia,	CBC, creatinine, LFTs, ECG

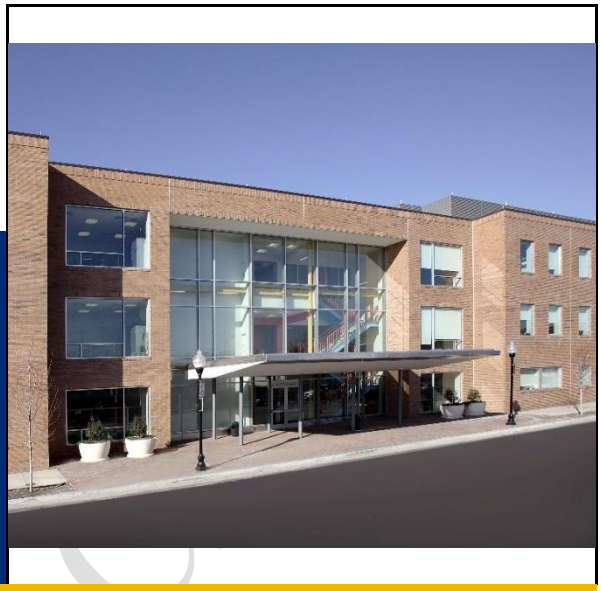
			bronchitis and UTIs Anemia, cardiac toxicity, LFTs abnormalities, nephrotoxicity	
Ofamtuzumab (Kesimpta)	Continue perioperatively	No anesthetic interactions	Increased risk of infection	
Eculizumab (Soliris)	Continue perioperatively	No anesthetic interactions	Increased risk of infection, hypertension, vomiting, diarrhea, anemia and leukopenia	CBC, creatinine, electrolytes
Fumarates Dimethyl fumarate (Tecfidera) Monomethyl fumarate (Bafiertam) Diroximel fumarate (Vumerity)	Continue preoperatively, including take on DOS	No anesthetic interactions	May cause increased LFTs Typically causes mild lymphopenia Risk of PML (greatest in those with lymphocyte count less than 0.5)	CBC, LFTs
Dalfampridine (4-AP, Ampyra)	Continue preoperatively, including take on DOS	No anesthetic interactions	Can cause dry mouth, diaphoresis, seizures, agitation delirium Increased risk of seizures in patients with CrCl of 50 mL/min or less	Creatinine
Teriflunomide (Aubagio)	Continue preoperatively, including take on DOS	No anesthetic interactions	Hepatotoxicity Can decrease neutrophils, lymphocytes and platelets	CBC, LFTs
Sphingosine- 1-phosphate (S1P) receptor modulators Fingolimod (Gilenya) Siponimod (Mayzent) Ozanimod (Zeposia) Ponesimod (Ponvory)	Continue preoperatively, including take on DOS	QT-prolonging drugs (methadone, halogenated anesthetics, ondansetron, meperidine)— torsade de pointes β-blockers and calcium channel blockers— high-degree atrioventricular block	Increased LFTs, lymphopenia due to lymphocyte sequestration, decreased FEV1, infectious risk Cardiac side effects including HTN, conduction abnormalities, QT prolongation- Causes rebound disease relapse when stopped abruptly	LFTs, CBC, and ECG
Cladribine (Mavenclad)	Continue perioperatively	Ketorolac, celecoxib— additive bleeding risk	May cause myocarditis, increased LFTs Risk of opportunistic infections Risk of graft-versus-host disease with blood transfusions	LFTs, CBC, and ECG
Mitoxantrone (Novantrone, OTN Mitoxantrone)	Continue perioperatively	Ketorolac— increased bleeding risk	Can cause cumulative cardiotoxicity Can cause decrease in RBCs, WBCs Increased risk of infection, febrile neutropenia Increased LFTs	ECG, creatinine, CBC, and LFTs Patients who are taking this medication, or who have taken it in the past 3-6 months should

				have a recent evaluation of left ventricular function before surgery
Acetylcholinesterase inhibitors Neostigmine [d] (Prostigmin Bromide) Pyridostigmine (Mestinon)	Continue preoperatively, including take on DOS	Succinylcholine— increased duration of action Nondepolarizing neuromuscular blockers —unpredictable or insufficient reversal of due to maximal inhibition of acetylcholinesterase β-blockers — enhanced bradycardic effect	May worsen bradycardia Muscarinic side effects (increased bronchial secretions may worsen bronchospastic disease)	
Azathioprine [d] (Imuran, Azasan)	Continue preoperatively, including take on DOS	No anesthetic interactions	May cause cytopenias, elevated liver function tests	CBC, LFTs
Mycophenolate [d] (Cellcept)	Continue preoperatively, including take on DOS	No anesthetic interactions	Increased risk of blood dyscrasias, infection	CBC
Cyclosporine [d] (Sandimmune, Neoral, Gengraf)	Continue preoperatively, including take on DOS	Nondepolarizing neuromuscular blockers may be potentiated Systemic lidocaine — increased lidocaine toxicity due to decreased clearance Opioids (fentanyl, oxycodone, hydrocodone, morphine, buprenorphine, codeine, tramadol, methadone, meperidine) — increased risk of opioid toxicity and respiratory depression Benzodiazepines — increased sedative effects NSAIDs — increased risk of nephrotoxicity	Increased risk of infection, hyperkalemia and hypomagnesemia, anemia, nephrotoxicity, and hepatotoxicity	CBC, creatinine, electrolytes, magnesium, LFTs
Tacrolimus [d] (Astagraf XL, Hecoria, Prograf, Envarsus XR)	Continue preoperatively, including take on DOS	Synergistic effect seen with other drugs that increase QT prolongation (sevoflurane, ondansetron) Fentanyl, tramadol, methadone, diazepam, alprazolam, dexamethasone, lidocaine, omeprazole — increased risk of tacrolimus toxicity (tacrolimus is a CYP3A4 substrate)	Increased risk of infection, hypertension, neurotoxicity, nephrotoxicity, hyperkalemia, QT prolongation, and pure red cell aplasia	CBC, LFTs, creatinine, lytes, and ECG
Methotrexate [d] (Otrexup, Xatmep, Trexall, Rasuvo, RediTrex)	Continue preoperatively, including take on DOS	No anesthetic interactions	Increased risk of infection, liver, bone marrow toxicity	CBC and LFTs

Appendix T: Center for Perioperative Optimization Children's Center

Johns Hopkins Medicine
Department of Anesthesiology
and Critical Care Medicine

Children's Center for Perioperative Optimization



LOCATION & APPOINTMENT OFFERINGS

Location:
David M. Rubenstein Building,
Lower-Level Specialty Clinic,
200 N. Wolfe St, Baltimore MD
21287

Contact Information
Dr. Sally Bitzer
sbitzer1@jhmi.edu

Dr. Joann Hunsberger
jhunsbe1@jhmi.edu

Providers
Ivor Berkowitz, MD MBA
Sally Bitzer, MD
Joann Hunsberger, MS MD
Rahul Koka, MD MPH
Barbara Vickers, MD MPH
Monica Williams, MD

Pediatric Anesthesia Consultation Services Details

Patient Qualifications:

- Consider consult for pediatric patients with possible anesthesia management concerns
- See supplemental material for specialty-specific guidelines, "Indications for Children's Center Perioperative Optimization Consult"
- Child is required to be present for any video visit consultations

Available Days and Hours:

- Mondays, 8:30 AM-3:00 PM
- Wednesdays, 8:30 AM-3:00 PM
- Thursdays, 8:30 AM-3:00 PM
- Friday afternoons, 8:30 PM-11:30 PM

Scheduling:

- Medical Office Coordinators schedule CCPO consult at time of procedural posting in EPIC using "JHDMR Peds Preop Eval"
- For questions regarding general scheduling or same day appointments request, send EPIC Secure Chat to: JHDMR PEDS PRE OP EVAL

Appendix T: Indications for Children's Center Consult (continued)

Any Patient with anesthesia management concerns

Anesthesia Related Concerns
- History of difficulty with anesthesia
- Family member with malignant hyperthermia or other significant difficulty with anesthesia

Abnormal Airway Concerns:
- Known difficult airways
- Abnormal airway anatomy or syndrome (e.g., Treacher-Collins, Goldenhar, Pierre-Robin, Cornelia de Lange, Hurler's, Hunter's)
- Obstructive sleep apnea OSA or central apnea for procedure other than tonsillectomy

Respiratory Disease
- Cystic fibrosis
- Oxygen dependent/ home CPAP/ventilator dependent
- Pulmonary hypertension
- Poorly-controlled or steroid dependent asthma
- Former premature infant with ongoing oxygen requirement or severe chronic lung disease

Neuromuscular / Orthopedic Disease
- Muscular dystrophies
- Skeletal dysplasia
- Progressive severe weakness
- Cervical spine instability/prior neck surgery/in neck brace
- Scoliosis: neuromuscular or curve >60 degrees
- Wheelchair-bound
- Significant limitation in physical activity/exercise tolerance

Neurologic Disorders
- Seizures: frequent or poorly controlled

Metabolic / Gastrointestinal Disorders
- Metabolic disorders / storage disorders (e.g., Hunter's, Hurler's, mitochondrial disorder)
- Diabetes- insulin therapy
- Morbid obesity
- Renal or Hepatic failure

Transplant-Related Concerns
- Have had or will have organ transplant

Hematologic Disease
- Hemoglobinopathy
- Sickle cell disease
- Coagulopathy

General / Other Concerns
- DSS custody/foster care
- Ethical concerns: Do-Not-Resuscitate, Jehovah's Witness for major surgery

Cardiology:

CCPO Consult:
- Consider for all patients with symptomatic or complex congenital heart disease

Cardiology consults are also requested for:
- Patients with ***unevaluated or new*** heart murmur
- If patient has known congenital heart disease:
  - With ***asymptomatic ASD or VSD***, Cardiology evaluation should be within one year of procedure date
  - Complex congenital heart disease s/p cardiac surgery totally ***asymptomatic***, routine scheduled follow-up should occur prior to procedure date
- If patient has ***symptomatic or complex congenital heart disease***
  - Patients should be seen by cardiology *within 30 days* of procedure
  - Additionally, inform cardiologist of patient's procedure date and if patient is admitted, inform cardiology service about any child with symptomatic or complex congenital heart disease.

Please ensure cardiac consult and related tests are available in Epic

Appendix T: Pre-Procedure Questionnaire (PPQ) – Pediatrics

1	Are you the child's parent or legal guardian? ☐Yes ☐No (Cascade to next questions based on the answer.) **If yes**, what is your name, relationship to the child, and phone number_____ **If no**, what is the name and phone number of a parent or legal guardian_____
2	What is the child's weight? (In pounds) _____
3	What is the child's height? (In feet and inches) _____
4	Does the child have a pediatrician that they see regularly? ☐Yes ☐No (Cascade to next question based on the answer.) **If yes**, please enter their name/phone number ____Free Text_____
5	Does the child see any other doctors/specialists from the list below? ☐Yes ☐No **If yes**, select specialist(s) below ☐Cardiologist (heart) name/phone number____ Free Text _____ ☐Pulmonologist (lung) name/phone number___ Free Text _____ ☐Endocrinologist (diabetes, thyroid, or adrenal disorders) name/phone number_ Free Text ___ ☐Hematologist (blood clotting or bleeding disorders or sickle cell disease) name/phone number_____ Free Text _____ ☐Neurologist (brain or seizure disorders) name/phone number_____ Free Text _____ ☐Oncologist (cancer) name/phone number_____ Free Text _____ ☐Nephrologist (kidney) name/phone number_____ Free Text _____ ☐Gastroenterologist (liver, digestive, bowel) name/phone number_____ Free Text _____ ☐Rheumatologist (autoimmune, connective tissue, or arthritis disorders) name/phone number_____ Free Text _____ ☐Other____ Free Text _____ name/phone number_____ Free Text _____
6	Has the child ever been hospitalized or in an ICU (PICU or NICU) for more than 2 days? ☐Yes ☐No (Cascade to next question based on the answer.) **If yes**, please describe_____ Free Text _____
7	Was the child born with a syndrome or heart or lung disease or had heart, lung, or chest surgery? ☐Yes ☐No
8	Is the child on dialysis? ** ☐Yes ☐No (Cascade to next question based on the answer.) **If yes**, what type of dialysis? ☐Peritoneal (abdominal tube) ☐Hemodialysis (dialysis center) (Cascade to next question based on the answer.) **If yes to hemodialysis**, what is the schedule? ☐Monday/Wednesday/Friday ☐Tuesday/Thursday/Saturday
9	Does the child have diabetes? ☐Yes ☐No (Cascade to next question based on the answer.) **If yes**, does the child use insulin? ☐Yes ☐No **only score for review if yes to insulin** Additional note: ***"Schedule insulin-dependent diabetic patients first or early in the day (before noon)"***
10	Does the child take more than 5 prescription medications? (Not including sleeping pills or anti-anxiety medications) ☐Yes ☐No
11	Has the child been diagnosed with a blood disorder? (For example: anemia, bleeding, coagulation, blood clotting problem, or sickle cell disease) ☐Yes ☐No **Also looks to chart data (Medical History, Problem list) for sickle cell to auto-score for review
12	Does the child use oxygen at home? ☐Yes ☐No
13	Does the child have sleep apnea? ☐Yes ☐No (Cascade to next question based on the answer.) **If yes**, does the child use a CPAP/BiPAP (breathing) machine when sleeping? ☐Yes ☐No

14	Can the child keep up with other children during activities without having to stop to catch their breath? ☐Yes ☐No
15	If the child is under 18 months old, does the child turn blue when they eat or cry? ☐Yes ☐No ☐N/A
16	Have you ever been told it was difficult to place a breathing tube in the child's airway ("difficult intubation")? ☐Yes ☐No **Also looks to chart data (Medical History, Problem list) for difficult airway for it to auto-score HIGH
17	Has the child had any problems with anesthesia in the past or difficulty placing an IV (intravenous) in their arm? ☐Yes ☐No (Not appropriate for ASC if IV access is a problem, but does not require CPO assessment) (Cascade to next question based on the answer.) **If yes**, please describe the problem(s)_____
18	Have you ever been told that the child has or is at risk for Malignant Hyperthermia or has a blood relative with Malignant Hyperthermia? (This is a severe reaction to anesthesia that includes a dangerously high body temperature, rigid muscles or spasms, a rapid heart rate, and other symptoms) ☐Yes ☐No **Also looks to chart data (Medical History, Problem list) If a malignant hyperthermia auto-scores HIGH
19	If the child is over 10 years old, do you think that the child might be pregnant, or was pregnant in the last 90 days? ☐Yes ☐No ☐N/A
20	Has the child had a blood transfusion within the last 90 days? ☐Yes ☐No
21	Do you as the child's parent/legal guardian object to the child receiving any blood products for cultural or religious reasons (For example: Jehovah's Witness)? ☐Yes ☐No ☐N/A (I am not the parent/legal guardian)
22	Does the child have any implanted medical device(s) in their body from the list below? (Not including hardware such as pins/plates/screws) ☐Yes ☐No **Also looks to chart data (Medical History, Problem list) for any of the devices below to auto-score for review **If yes**, please select the device(s) below. ☐Tracheostomy (breathing tube in the neck) ☐Gastrostomy or Jejunostomy (feeding tube) ☐Insulin pump ☐VP Shunt (drain tube in the brain) ☐Baclofen pump (muscle relaxer inserted into the spinal cord) ☐Other medication pump ☐Cardiac (heart) pacemaker ☐Automated Implantable Cardioverter Defibrillator (AICD) ☐Vagal Nerve stimulator ☐Deep Brain Stimulator ☐Plastic Surgery Implants (for example tissue expander) ☐Dental Implants ☐Ventricular Assist Device (VAD) for example Heartmate or Heartware ☐Other_____

Scoring Matrix

CPO Scoring	
RED = HIGH RISK	Patient qualifies for Anesthesia/CCPO Clinic assessment
YELLOW = MODERATE RISK	Patient qualifies for additional assessment NP/PA
GREEN = LOW RISK	Patient qualifies for RN Review
ASC Scoring	
RED = HIGH RISK	Patient **does not** qualify for ASC
YELLOW = MODERATE RISK	Patient needs additional review, but could be appropriate for ASC
GREEN = LOW RISK	Patient qualifies for ASC

Appendix T: Center for Perioperative Optimization Children's Center

Pediatric NPO Instructions

Consulte la informacíon en español en la página siguiente

Eating and drinking rules before your child's ARRIVAL TIME for their procedure

CLEAR LIQUIDS	DRINK UNTIL 1 HOUR BEFORE ARRIVAL TIME	 Water, Apple Juice, Pedialyte, Gatorade, Plain Jello
BREAST MILK	DRINK UNTIL 3 HOURS BEFORE ARRIVAL TIME	
INFANT FORMULA	DRINK UNTIL 5 HOURS BEFORE ARRIVAL TIME	
SOLID FOOD	EAT UNTIL 7 HOURS BEFORE ARRIVAL TIME (or until midnight for cases starting at 7:30 am)	 Bread, milk, apple sauce, Pediasure, fruits, vegetables

Reglas para comer y beber antes de la HORA DE LLEGADA de su hijo para su procedimiento

LÍQUIDOS CLAROS	BEBER HASTA 1 HORA ANTES DE LA HORA DE LLEGADA	 Agua, jugo de manzana, Pedialyte, Gatorade, gelatina natural
LECHE MATERNA	BEBER HASTA 3 HORAS ANTES DE LA HORA DE LLEGADA	
FÓRMULA INFANTIL	BEBER HASTA 5 HORAS ANTES DE LA HORA DE LLEGADA	
ALIMENTOS SÓLIDOS	COMER HASTA 7 HORAS ANTES DE LA HORA DE LLEGADA (o hasta la medianoche para casos que comienzan a las 7:30 am)	 Pan, leche, puré de manzana, Pediasure, frutas, verduras

Appendix U: Perioperative Pain Clinic

Johns Hopkins Medicine
Department of Anesthesiology
and Critical Care Medicine

Perioperative Pain Clinic

NEW SERVICE & APPOINTMENT OFFERINGS

Johns Hopkins Hospital
601 N. Caroline Street
Neurosurgery Suite, 5th Floor
Baltimore, MD 21287

Contact Information
Patricia Shird
410-955-5608
pgorham1@jhmi.edu

Faculty
Marie Hanna, MD
Ronen Shechter, MD
Traci Speed, MD

The Department of Anesthesiology and Critical Care Medicine is pleased to announce a new service for patients at the Johns Hopkins Hospital beginning June 1, 2017. The Perioperative Pain Clinic will provide consultation service that evaluates and adjusts a patient's chronic pain management prior to surgery and manages their analgesic regimen post operatively.

We provide world class care by incorporating a multidisciplinary approach to include the **Acute Pain**, **Psychiatry**, and **Integrative Medicine** teams. We hope this service is valuable to you and your patients during this important aspect of their perioperative care.

Operational Details
Available Days: Every Thursday (excluding holidays)
Hours: 8:00 AM – 5:00 PM
Scheduling: Call Patricia Shird at 410-955-5608.
Patient Qualifications:
Patients scheduled for surgical procedures who are:

- ✓ On chronic opioids
- ✓ On partial agonist opioid buprenorphine (including Suboxone)
- ✓ In an addiction maintenance program
- ✓ On multiple illicit substances (i.e. polysubstance abuse)

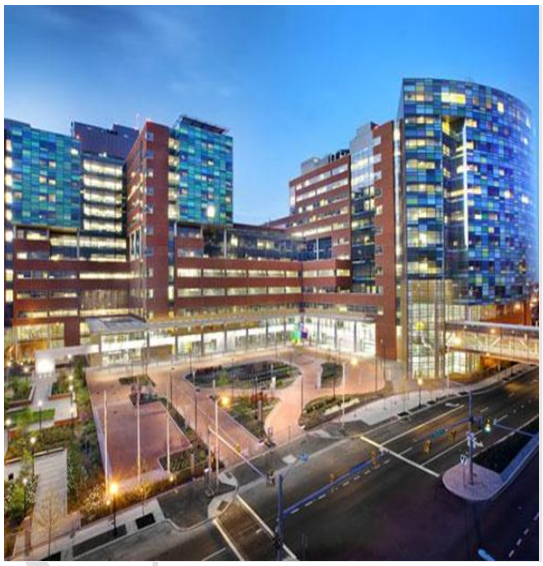
Opioid naïve patients at risk of developing opioid dependence postoperatively

Appendix V: Center for Perioperative Optimization –Obstetrics

Johns Hopkins Medicine

Department of Anesthesiology
and Critical Care Medicine

Obstetrics Center for Perioperative Optimization



NEW LOCATION & APPOINTMENT OFFERINGS

Johns Hopkins Hospital

600 North Wolfe Street
Nelson 2, Suite 150
Baltimore, MD 21287

Johns Hopkins Hospital

601 N. Caroline Street
The Outpatient Center,
6th Floor
Baltimore, MD 21287

Contact Information

Jamie Murphy, MD
jmurphy@jhmi.edu

Rhonda Thomas
rthomas6@jhmi.edu

The Department of Anesthesiology and Critical Care Medicine is pleased to offer preoperative evaluation appointments for OB patients at the Johns Hopkins Hospital. We hope this service is valuable to you and your patients during this important aspect of their perioperative care.

Operational Details:
Available Days: Tuesday via Telemedicine (excluding holidays)
Hours: 8:00 AM – 5:00 PM
Scheduling: Call 410-502-3200 or Secure Chat **"Rhonda Y Thomas"**
Patient Qualifications:

- Pregnant and scheduled for surgery
- Complex pathologies of the spine (scoliosis, vertebral fusion, disc disease, spinal canal defects, neuropathies, and nerve disease, etc)
- Neurologic pathology (cerebral ischemia, tumor, increased intracranial pressure, cerebral vascular disease, etc)
- Cardiac disease (congenital, valvular, PHTN, cardiomyopathy, ischemic disease, arrhythmia, etc)
- Pulmonary disease (H/O PE, interstitial lung disease, severe asthma, cancer, etc)
- Morbid Obesity (OSA, equipment considerations)
- Hematologic Disorders (thrombophilia, coagulopathies, patients on anticoagulation)
- Cancer
- Abnormal placental presentations (accreta/increta/percreta)
- Airway concerns
- Fetal Therapy patients requiring specialized management (EXIT procedures)
- H/O adverse anesthetic reactions or experiences
- Pain: chronic pain, pain disorders, PTSD, and generalized concerns