

Protocol Title: Pre-Anesthesia Protocol	Document #: 1871 Version: 9
Facility: St. Charles Bend, St. Charles Madras, St. Charles Prineville, St. Charles Redmond	Page 1 of 9
Owner: Carla Stevens (Senior Director)	Effective Date: 03/04/2019
<p>All clinical protocols need to be ordered by a physician or advanced practice practitioner (APP) before they are initiated. Once the clinical protocol has been initiated, orders specific to the clinical protocol can be entered in the electronic health record as “per protocol, no co-sign required”.</p> <p><i>For exclusions, see Ref #8315 “Clinical Protocol and Standing Orders”</i></p>	

Policy/Purpose

The Pre-Anesthesia Protocol provides a general set of nursing instructions and orders aimed at the effective and safe preparation of a patient undergoing anesthesia care during a procedure. This protocol may be utilized under the direction of the department of anesthesiology for patient preparation in the pre-surgery clinic, procedural holding areas, radiology, medical diagnostics unit, procedural care unit and cardiovascular laboratory. These instructions are not exhaustive; anesthesia providers should be consulted for patient care conditions not described in this protocol.

***It may be reasonable to apply this protocol in urgent/emergent cases as time and patient conditions allow.**

Definitions

Intermediate & high-risk elective surgeries include the following (some examples are provided but are not exhaustive):

- Cardiothoracic
 - Example: Coronary Artery Bypass Grafts, Heart Valve Replacement, Thoracotomy
- Major Vascular
 - Includes cases involving major central arteries and veins (i.e. aortic, carotid, femoral, iliac)
 - Does not routinely include surgeries involving small vessels of the arms and legs
- Head & Neck
 - Example: Radical neck dissection, lymph node removal with tumor resection
- Intra-abdominal/pelvic
- Intracranial
- Lithotripsy (due to shock wave impact)
- Major plastic reconstruction of the chest and abdomen
 - Example: pectoral or abdominal wall flaps
- Multi-level spine
- Orthopedic involving humerus, femur, tibia, pelvis
- Prostate resection or removal
- Ventral Hernia

Surgeries with a high risk of bleeding:

- Cardiothoracic and Major Vascular
- Intracranial Surgery
- Major plastic reconstructive procedures
- Occulo-plastic surgery
- Percutaneous Nephrostomy
- Prostatectomy (excluding transurethral resection of the prostate)
- Retro-bulbar block during cataract/retinal



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- Intramedullary (within the spine) surgery
- Strabismus repair

Instructions

1. Nurses will initiate the Pre-Anesthesia Protocol for all patients scheduled for a procedure with anesthesiology care. All protocol orders must be approved by a licensed independent practitioner (LIP) and signed prior to the procedure.
 - a. Laboratory and diagnostic testing will be obtained according to Appendix A for all Monitored Anesthesia Care (MAC) and general anesthesia procedural/surgical cases.
 - a. MAC for cataract surgery does not require laboratory or diagnostic testing for patient condition.
 - b. Nurses will review chart for surgeon orders and coordinate testing based on date of surgery and labs/diagnostics indicated. The phase of care may be changed at the nurse's discretion.
2. Nurses will consult with the anesthesia provider assigned to the department for patient conditions or concerns which may need a specialized plan of care or additional medical orders beyond this protocol. This includes, but is not limited to, elective non-cardiac surgery within 60 days of a myocardial infarction, unstable or untreated complex medical problems, uncontrolled medical conditions such as hypertension or hyperglycemia, abnormal test results such as EKG, blood or chest images without evidence of medical intervention, pheochromocytoma, severe lidocaine allergy and family or known history of malignant hyperthermia.
 - a. Pre-Surgery Clinic nurses will also consider the management of PCP indicators, as listed in Appendix B, when determining if a patient needs an anesthesia consult or further evaluation/treatment by their PCP or a pre-operative medicine specialist.
 - b. If a patient reports a severe or molecular latex allergy, if possible, nurses will obtain records from the patient's allergist and consult anesthesiology to review the testing. Additional precautions will be initiated based on the anesthesia provider assessment of the severity of the allergy.
3. Patients may be evaluated and optimized for surgery by their primary care physicians or local pre-operative medicine specialists. Pre-Surgery nurses will assess the patient to ensure the requirements of the anesthesia protocol are met.
 - a. If there is a discrepancy between testing requirements in the anesthesia protocol and the tests ordered by another physician, the pre-surgery clinic nurses will ensure the required tests for anesthesia are completed along with other orders.
 - b. If there is a discrepancy regarding medication instructions, the nurses will defer to the anesthesia protocol and may choose to consult an anesthesia provider for clarity.
 - c. Surgeon preoperative order sets should be followed in addition to applicable orders in the anesthesia protocol.
4. Nurses will provide the following diet instructions:
 - a. No solid food or milk products (including infant formula) after midnight.
 - a. This includes gum, chewing tobacco and candy
 - b. Do not swallow toothpaste
 - b. Clear liquids may continue after midnight up to TWO hours prior to the surgery or procedure. Clear liquids include fat free vegetable, beef or chicken broth.
 - c. Infants (up to 12 months of age) may be breast fed up until 4 hours prior to the surgery or procedure.
5. Diabetic patients: in general, defer to the prescribing provider for a plan or instructions with diabetic medications. If plan significantly different from anesthesia recommendations in Appendix A, consult anesthesia. If plan not available, nurses will provide medication instructions according to the attached reference, Appendix A.

- a. HbA1c will only be obtained for surgical patients prior to the day of surgery. If not possible, do not order for day of surgery.
 - b. When an insulin calculation based on Appendix A results in partial unit dose, the nurse will round down to the nearest unit when instructing the patient.
6. Nurses will provide the following medication instructions as applicable:
- a. Continue all home medications unless specifically described below.
 - b. Do not take the following on the morning of surgery:
 - a. Vitamins
 - b. ACE inhibitors
 - c. Angiotensin II receptor antagonists
 - d. Non-insulin injectables
 1. If getting bowel prep, hold non-insulin injectables when starting bowel prep
 - e. Diuretics except those containing a beta-blocker
 1. Instruct patient to hold potassium supplement if there is a history of stomach distress when taken without food.
 - c. Stop the following medications as indicated:
 - a. 24 hours prior to procedure:
 1. All erectile dysfunction medications. Do not stop if taking for pulmonary hypertension.
 - b. Five days prior to procedure:
 1. Coumadin (see bridge instructions)
 2. NSAIDs (non-steroidal anti-inflammatory drugs)
 - c. Seven days prior to procedure:
 1. Herbal supplements, Vitamin E, Fish Oil
 2. MAO inhibitors except Eldepryl
 3. Phentermine
 4. For Aspirin instructions, see Appendix C, except for procedures described below:
 - a. Vascular surgery patients should remain on Aspirin
 - b. GI Endoscopy patients taking 81-162mg Aspirin, for antiplatelet effect, should remain on their Aspirin.
 - c. Consult provider for GI Endoscopy patients taking 325mg Aspirin or greater for antiplatelet effect
 - d. For medications containing Buprenorphine, the patient should follow instructions as given by the prescribing provider. If no instructions have been given, or instructions contradict Appendix D, the RN will consult with anesthesia for a plan based on the anticipated post-operative pain and Appendix D.
 - e. Naltrexone should be stopped 72 hours prior to surgery; 4 weeks prior for injection.
 - f. Notify the anesthesia provider if these timelines cannot be achieved for the listed medications.
7. For all non-vascular surgery patients on antiplatelet/anticoagulation therapy:
- a. For patients on Warfarin, a bridge plan should be documented by the prescribing physician. For questions regarding the appropriate bridge plan, the prescribing physician should be directed to the Perioperative Anticoagulation Guideline.
 - b. For patients taking other anticoagulants, the RN will consult anesthesia if instructions differ from these guidelines, unless instructed by surgeon to continue.
 - a. Direct Oral Anticoagulants (DOACs), such as Xarelto, Pradaxa, Eliquis – 48-72 hours, no bridging.
 - b. Plavix – Hold 5-7 days, no outpatient bridging. Consult anesthesia provider if the patient has recently had one of the following:
 1. Bare Metal Stent (BMS) less than 6 weeks old
 2. Drug Eluting Stent (DES) less than 6 months old
 3. Cardiac stents placed within past 6-12 months
 4. Vascular Stent less than 3 months old

8. For vascular surgery patients on antiplatelet/anticoagulation therapy, defer to vascular surgeon.
9. Electrocardiogram (EKG) will be obtained based on the attached reference (Appendix A) or if the patient is experiencing acute or uncontrolled symptoms within the past 6 months for the following diagnosed conditions:
 - a. Arrhythmia including bradycardia, heart block, controlled rate atrial fibrillation, occasional premature ventricular contractions (PVC) or paced rhythm
 - b. Cardiovascular or major vascular disease
 - c. Cerebrovascular disease
 - d. Chronic Kidney Disease (GFR <60 or abnormal age adjusted creatinine clearance)
 - e. Diabetes Mellitus
10. Whenever possible, nurses will obtain copies of cardiac and pulmonary studies completed within the past five years. This excludes EKGs, unless indicated per Appendix A; then obtain most recent prior EKG.
11. Whenever possible, nurses will obtain interrogation reports for all surgeries:
 - a. Pacemakers within the past twelve months.
 - b. Internal defibrillators within the past six months.
 - c. If there is no interrogation report available, nurses will discuss the patient history with the anesthesia provider assigned to the pre-surgery clinic to determine a plan of care. Nurses will facilitate an appointment with cardiology (if necessary) and notify the surgeon of the plan.
12. Day of procedure nursing instructions for anesthesia care:
 - a. IV to be started upon admission to the pre-procedural holding area
 - a. IV to be started by the anesthesia provider on all patients 10 years old and younger or at the discretion of the care team.
 - b. An intradermal injection of bacteriostatic normal saline 0.9% (up to 0.5ml) may be used as a local anesthetic before starting an IV.
 1. Lidocaine 1% (up to 0.5 ml), intradermal injection may be used as a local anesthetic for adult patients who have a history of difficult IV access, present conditions associated with difficult access, patient request or a large catheter (#16For larger) is being inserted.
 - b. Intravenous fluids:
 - a. For non-dialysis adult patients, connect 1000 ml of lactated ringers to IV and infuse at 20ml per hour unless otherwise ordered.
 - b. For dialysis patients or any patient with a potassium level greater than or equal to 5, connect 1000 ml of normal saline to IV and infuse at 20ml per hour rate unless otherwise ordered.
 - c. Set-up an IV with micro-drip tubing and lactated ringers 500 ml for patients 1-10 years old and infuse at 20ml per hour unless otherwise ordered. Pediatric flow rate should not exceed 1ml/kilogram/hour.
 - d. Set-up an IV with burette and lactated ringers 500 ml for patients less than 1 year of age unless otherwise ordered.
 - c. Complete all laboratory testing as indicated by the attached reference or physician orders.
 - d. Initiate all additional surgeon orders for pre-operative phase of care.
 - e. For Pediatric patients, print the weight based emergency medication list.

REFERENCES

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- UpToDate, Inc

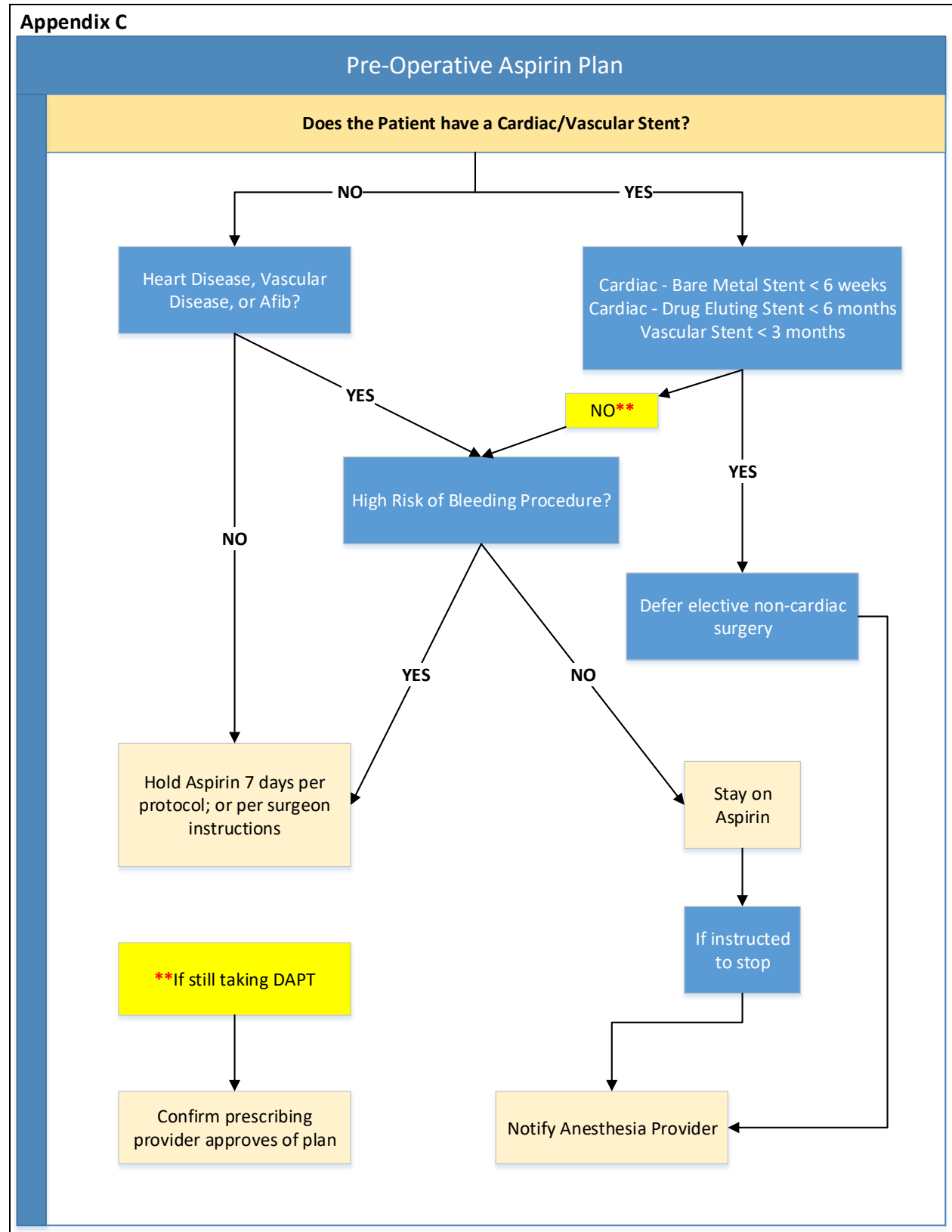
PRE-ANESTHESIA TESTING PROTOCOL SUMMARY of TESTING: Minimum Required Testing by Anesthesiology. Based on patient condition: Primary Care Providers and Specialists may utilize other diagnostic testing or surgery preparation. CBC should be ordered w/o differential						
Medical Condition	DOS	Within 14 days of DOS	30 days	3 months	6 months	1 year
Anemia or Chronic Blood loss (active treatment. , Hgb < 12)			H & H			
Angina (symptoms within 6 months)			H & H		EKG	
Arrhythmia with symptoms (except Ventricular Tachycardia)						EKG
Bleeding Disorder			*CBC			
Cardiovascular / Cerebrovascular Disease / Peripheral Vascular History (no active symptoms - 6 months)						EKG
Congestive Heart Failure with Dyspnea			H & H			
Chronic Kidney Disease			*BMP		BMP	EKG
CVA / TIA in the last 6 months			H & H			
Dysuria (active symptoms of urinary tract infection-painful urination)		UA / CS				
Dialysis <i>Post dialysis</i>	K+		H & H			
Hematological disorder: <i>Active treatment</i> (ES, Leukemia, Lymphoma, MDS, PV)			*CBC			
Hematological disorder: <i>History of</i> (ES, Leukemia, Lymphoma, MDS, PV)					*CBC	
Hemochromatosis					H & H	
HIV (HIV with antiretroviral treatment)				*CBC CMP if Tx		
Idiopathic Thrombocytopenic Purpura		Platelets				
Liver Disease (Active Hepatitis B or C, Cirrhosis, Liver Failure)			PT / INR CMP		*CBC	
Radiation Treatment within the past 3 - months			*CBC			
Ventricular Tachycardia History of occurrence within 30 days			BMP			
Medication Therapy	DOS	Within 14 days of DOS	30 days	3 months	6 months	1 year
ACE inhibitor Repeat BMP if med change /IV contrast since most recent lab					BMP	
Anticonvulsants: Draw drug level if increase to normal seizure activity or dose change since last drug level						
Chemotherapy within past 3 - months (or after last chemotherapy treatment)			CBC		CMP	
Coumadin (PT / INR indicated within 14 days is generally completed by the coumadin clinic or prescribing MD) in order to create the appropriate bridge plan	PT / INR					
Digoxin: <i>(Draw digoxin level if HR < 50 or > 100)</i>		K+ drug level				
Diuretic	K+				BMP	
Digoxin / diuretic & pre-procedure bowel prep (OR cases only, not endoscopy)	K+					
Immunosuppressive medication, excluding steroids <i>Repeat test if no CMP since initiation of therapy</i>					CMP *CBC	
Lithium				BMP		
Prednisone or other Corticosteroids	CBG					
Theophylline level					Drug	
Special Attention Surgery Cases	DOS	Within 14 days of DOS	30 days	3 months	6 months	1 year
All incisional OR cases (excluding pediatric patients)	CBG					
Scheduled Surgery: Colorectal ERAS Pathway Patients					CMP	
Scheduled surgery cases using IV Contrast agent (does not include green contrast for cholecystectomy)	Creatinine					
Females: from menses to menopause except hysterectomy / BSO: Collect a Qualitative BHCG Urine test or waiver on day of surgery. Collect a Qualitative BHCG Serum test if specified in the surgeon / proceduralist order	BHCG if not prev done	BHCG wi 3 days				
Scheduled Surgery: Cardiac, Thoracic, Major Vascular, Intracranial		T & S	CBC			
Scheduled Surgery: Arthroplasty (hip / knee / shoulder): T & S for revision. or bilateral surgery. UA, CBC, Chemistry only if indicated for conditions or medications listed above		T&S - bilateral or revision only	H & H			
Scheduled Surgery: Prostatectomy, Nephrectomy, Multi - level thoracic / lumbar spinal fusion ALIF. (No T /&S, H & H needed for anterior or posterior cervical unless ordered by surgeon)		T & S		H & H		
Diabetes Management	DOS	Within 14 days of DOS	30 days	3 months	6 months	1 year
Pre-Diabetes, Diet Controlled Diabetes, Oral agents: Do not take on the morning of procedure	CBG		BMP			EKG
Long acting Insulin: Take 80% of evening dose day prior to procedure and 80% of morning dose day of procedure if applicable. Intermediate / Mixed Insulin: Take 80% of doses day before procedure, 50% of morning dose day of procedure. Hold for BG less than 120 Short acting Insulin: Normal doses day before procedure. Hold day of procedure. Insulin pump: Set at basal rate on the day of procedure.	CBG		BMP	HbA1c (see #5a)		EKG
* Intermediate or High Risk Surgery: Cardiothoracic, intrathoracic, intra-abdominal, intra-pelvic, intracranial, lithotripsy, major plastic reconstruction, multi - level spine, orthopedic involving humerus/femur/tibia/pelvis, prostate resection or removal, major vascular, ventral hernia, patients on dialysis.						

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APPENDIX B:**Primary Care Provider (PCP) Medical Indicators**

Consider management of these indicators when determining need for anesthesia consult, and/or PCP or pre-operative medicine specialist evaluation/treatment

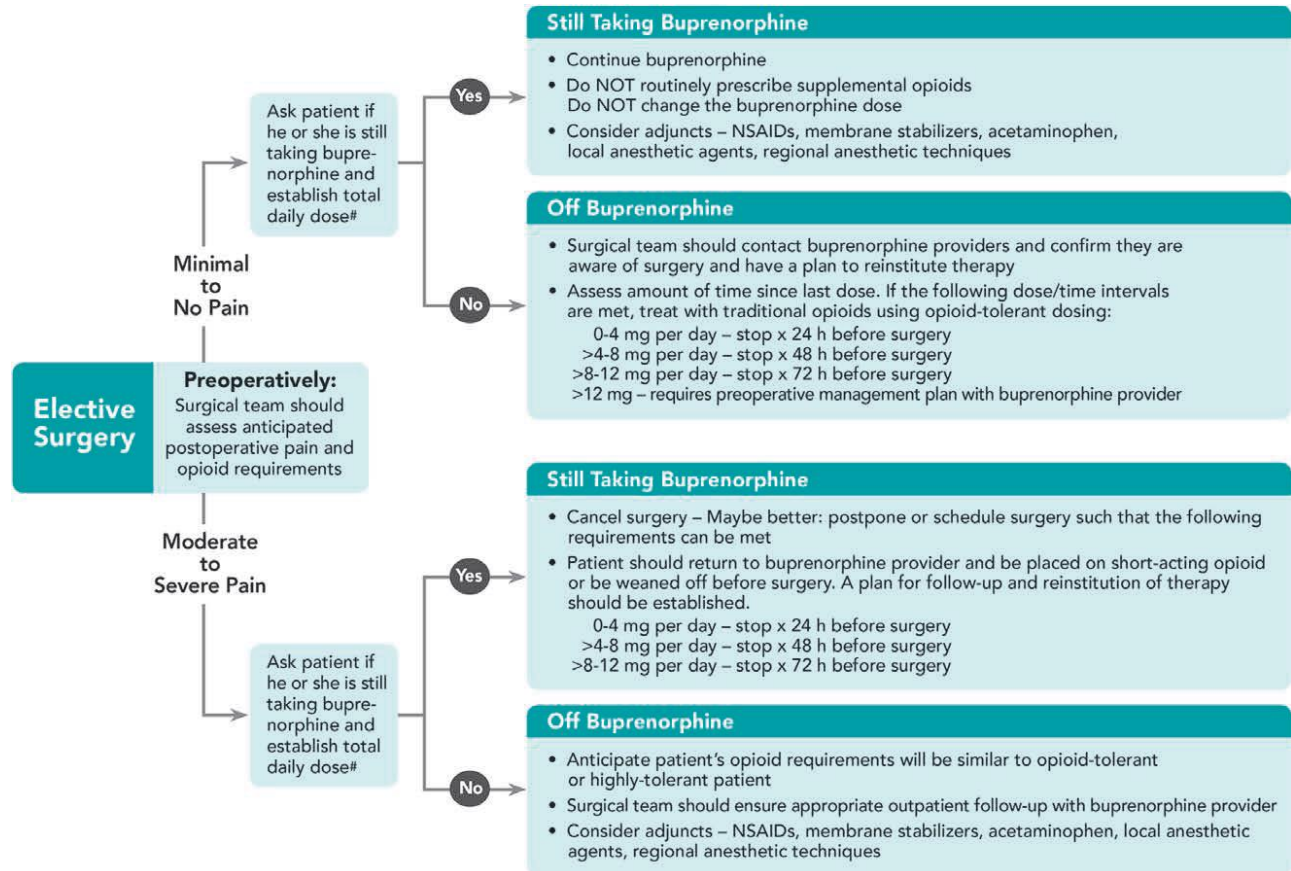
- Cerebral Vascular Accident (CVA)
- Transient Ischemic Attack (TIA)
- Unable to walk up a flight of stairs without dyspnea or chest pain
- Unable to walk two blocks without shortness of breath (SOB) or chest pain
- Arrhythmia
- Coronary Artery Disease (MI, Coronary bypass graft/stents)
- Carotid Artery Disease
- Chest Pain
- Congestive Heart Failure (CHF)
- Valve Problem/Murmur
- Pacemaker/Auto Internal Cardiac Defibrillator
- Peripheral Vascular Disease
- Chronic Obstructive Pulmonary Disease (COPD)/Emphysema
- Home Oxygen
- Recent Pneumonia/Upper Respiratory Infection
- Shortness of Breath/Dyspnea
- Cirrhosis
- Chronic Kidney Disease (CR > 2, GFR < 30)
- Dialysis
- Diabetic (Insulin dependent/Insulin pump)
- A1c > 8
- Anemia (hgb < 12)
- Bleeding/Coagulation Disorder
- Coumadin/Warfarin use
- Antiplatelet/Anticoagulation med DOAC/NOA (Pradexa, Eliquis, Xarelto)
- Immunosuppressive Medications (including Prednisone)
- BMI > 45
- Active/Untreated Infection
- Stop-Bang Score greater than or equal to 5 (High Risk OSA)



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APPENDIX D:

Suggestions for patients taking Buprenorphine, undergoing elective surgeries



Anderson, T.A., Quaye, A.N., Ward, E.N., Wilens, T.E., Hilliard, P.E., Brummett, C.M. (2017). To stop or not, that is the question: Acute pain management for the patient on chronic Buprenorphine. *Anesthesiology*, 126(6), p. 1180-1186.