Methodist Hospital Pre-Operative Anesthesia Guidelines 2022



Your guide to scheduling surgeries at Methodist Hospital.



Created in collaboration with Primary Care Physicians, the Department of Cardiology and the Department of Surgery

Preface

Guidelines are systematically developed recommendations that assist the practitioner and patient in making decisions about healthcare.

These recommendations may be adopted, modified or rejected according to clinical needs. Practice guidelines are not intended as standards or absolute requirements. Practice guidelines are subject to revision as warranted by the evolution of medical knowledge, technology, and practice.

TABLE OF CONTENTS



Anesthesia Testing Guidelines

Anesthesia Testing Guidelines: By procedure type	page 3
Cataracts and GI Lab Procedures	page 4
Low Risk Procedures	page 5
Intermediate Risk Procedures	page 6
High Risk Procedures	page 7
Anesthesia Testing Protocol	page 8
EKG Guidelines & Results	page 11
Cardiac Evaluation Care Algorithm & METs	page 14
Stents/Cardiac Cath Information	page 16
NPO Guidelines	page 17
Medication Management	page 19
Diabetic Protocol	page 22
Frequently Used Telephone Numbers	page 23
Surgery Scheduling Office	
Pre-Surgery RN's	
Surgical Risk Assessment Clinic	
Operating Room	
OR Leadership	
References	page 24

ANESTHESIA PRE-OPERATIVE TESTING GUIDELINES

Action
NO routine lab tests
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 Exceptions: Pregnancy testing Baseline creatinine for contrast dye injections Lab tests only as indicated by patient's medical history
NO routine lab tests
 Exceptions: Pregnancy testing Baseline creatinine for contrast dye injections Lab tests only as indicated by patient's medical history
Recommended lab tests
 CBC with platelets CMP Pregnancy testing EKG ***Lab tests for Emergency procedures only performed if time allows

CATARACT SURGERIES AND GI LAB PROCEDURES



Require no pre-operative testing for all patients in their usual state of health.

LOW RISK PROCEDURES

Low Risk Procedures

Examples include, but are not limited to:

- Arthroscopies
- MRI with anesthesia
- Breast biopsies
- Non-complex ENT
- Non-complex Flap reconstructions
- Superficial
- MRI port insertions
- Cystoscopy
- ESWL
- Breast reconstruction
- Breast augmentation
- Breast reduction
- Simple hernia repair
- TURB/TURP/TURPT
- Cardioversion
- Lesion removals
- · Eye Procedures, excluding cataracts
- Local Procedures
- D&C/D&E
- Hysteroscopy
- Tubal ligation
- Urethral sling
- Interstim placement

Lab requirements

No routine lab tests are required unless indicated by patient's medical history.

Please see the pre-operative testing grid for direction on which tests to order.

INTERMEDIATE RISK PROCEDURES



Intermediate Risk Procedures

Examples include, but are not limited to:

- Minor Head and Neck
- Partial & Total thyroidectomy
- Parathyroidectomy
- Laparoscopic
- Robotic
- Diagnostic laparoscopies
- Interventional Radiology
- Cardiac Cath Lab
- Ablations
- Neck and back surgeries
- Hysterectomy with or without repair
- Pacemaker/ICD insertions
- Major/Recurring hernia repairs
- Panniculectomy
- Orthopedic procedures

Lab requirements

No routine lab tests are required unless indicated by the patient's medical history.

Please see the pre-operative testing grid for direction on which tests to order.

HIGH RISK PROCEDURES

High Risk Procedures

Examples include, but are not limited to:

- Emergency Procedures***
- Aortic repairs including endoscopic
- Major vascular bypasses
- Carotid endarterectomy
- Cardiac surgery
- Whipple
- Esophagectomies
- Thoracotomy/VAT
- Hepatic
- Gastric bypass surgery

Lab requirements

- CBC with platelets
- CMP
- EKG
- ***Lab tests for Emergency procedures only performed if time allows

ANESTHESIA PRE-OPERATIVE TESTING GUIDELINES



Recommended Labs and Tests

Based on Patient's Medical History

- Lab results are valid for one month unless changes in medical condition/medications
- EKGS are valid for six months unless changes in cardiac condition
- Obtain chest X-ray for acute processes only or unstable pulmonary condition of patient with known lung disease
- Obtain Echo with new onset of murmur and evidence of decreased functional capacity
- Pregnancy testing for all Women of Childbearing Potential (WOCBP)
 - WOCBP is defined as a female who has begun menstruating and not entered menopause (absence of menses for 12 months)
 - Not required if previous tubal ligation or hysterectomy
 - Must be a serum pregnancy within 7 days or will have urine pregnancy the day of OR

ANESTHESIA PRE-OPERATIVE TESTING GUIDELINES

These guidelines identify that there should be minimal pre-operative lab tests for asymptomatic patients who have a normal history and physical and are undergoing low-risk surgical procedures.

Clinical Diagnosis	СВС	PT/INR	Glucose	ВМР	СМР	EKG	LFT's	UA
ACE/ARB Usage				x				
Anemia	X							
Bleeding History	x	x			x			
Chronic Hypertension						x		
CV Disease	х			x		x		
Coumadin		x						
Diabetes			X			x		
Digitalis				x				
Diuretics				x				
Hepatic Disease	x	x			x		x	
Blood Loss Expected >1 unit	x			x				
Morbid Obesity BMI ≥ 40						x		
Potassium Supplements				x				
Pulmonary Disease	x					x		
Smoking >1 pack per day						x		
Renal Disease	X			X		x		
Steroids			x	X				
Suspected UTI								x



Chemistries:

- 1. No routine chemistries are necessary for the healthy patient
- 2. Basic Metabolic Panel
 - a. Diuretics
 - b. Digitalis
 - c. Chronic renal failure
 - d. Potassium supplements
 - e. ACE/ARBs
 - f. Hepatic failure
 - g. Major surgery
 - h. Major blood loss expected >1 unit
 - i. Steroids
 - j. Cardiovascular disease

3. Liver Function Tests

- a. Cirrhosis
- b. Recent or chronic hepatitis

4. Glucose

- a. Diabetes
- b. Steroid use

Hematologic Studies:

1. Complete Blood Count

- a. Major blood loss expected >1 unit
- b. History or anemia, polycythemia, platelet disorder, or bleeding disorder
- c. No blood patient
- d. History of end stage renal disease
- e. History of coronary vascular disease
- f. Hepatic disease

2. PT/PTT

- a. History of bleeding disorder
- b. Hepatic disease
- c. Taking anticoagulation medications

EKG GUIDELINES

When to obtain an EKG:

- 1. Vascular surgery patients with at least one of the following clinical risk factors:
 - a. Coronary artery disease
 - b. Congestive heart failure
 - c. Diabetes
 - d. Myocardial infarction within 6 months
 - e. Murmur
 - f. Creatinine >2
- 2. Patients with known coronary, peripheral, or cerebrovascular disease undergoing intermediate risk surgery.
- 3. Morbidly obese (BMI ≥ 40)
- 4. Vascular/thoracic surgery patients with clinical indications from history and physical
- 5. Intermediate Risk Surgery Patients with at least one of the following clinical risk factors:
 - a. Coronary artery disease
 - b. Congestive heart failure
 - c. Diabetes
 - d. Myocardial infarction within 6 months
 - e. Murmur
 - f. Creatinine >2
 - g. Obesity BMI ≥ 40 or limited activity METS <4
 - h. History of atrial fibrillation
- 6. Active smoker >1 pack per day undergoing Intermediate or High Risk Surgery
- 7. Patient who has chronic hypertension

EKG RESULTS



EKGS

EKGs (No need to further evaluate)

EKG findings need to be evaluated in conjunction with the patient's history

The following do NOT need to be called to the anesthesiologists/cardiologists attention in absence of other cardiac history:

- Low voltage
- Axis deviation
- Atrial enlargement
- LVH
- Accelerated AV condition
- 1st degree AV block
- Early repolarization
- RBBB: No evidence of CV disease and asymptomatic
- Sinus bradycardia <50 and asymptomatic
- Early repolarization
- Pacemaker
- Conduction delay
- Premature atrial contractions

EKG abnormalities do not need to be further evaluated if:

- Patient had medical clearance for this procedure from primary care physician on staff and clearance notes EKG was read. **
- Patient has a cardiac history and has clearance for his procedure from a cardiologist on staff and clearance notes current EKG was read.**
- Patient is having cardiac surgery or ICD placement

Please try to obtain previous EKGs for comparison, notes, and cardiac workups including Echos and stress tests to assist in the evaluation of patient.

EKGs (Requiring further evaluation. May need to see primary care provider, pre-surgery clinic or anesthesiologist for day of procedures)

**Medical Clearance from PCP or

• "Cleared for Surgery" is NOT

support clearance.

Cardiology must include data to

sufficient without supporting data

- MI, including history and age undetermined or cannot rule out
- Acute ischemic changes
- 2nd, 3rd degree heart block
- Left bundle branch block
- Left anterior fascicular block
- ST and/or T wave abnormalities
- New onset atrial fibrillation
- RBBB: Evidence of CV disease or CV symptoms

EKG RESULTS

Peri-operative Cardiovascular Evaluation & Care for Non-Cardiac Surgery

The history should seek to identify active cardiac conditions. The following Active Cardiac Conditions require cardiac consultation and may result in case delay or cancellation.

Unstable Coronary Syndromes

- Recent myocardial infarction (>7 days but <30)
- Unstable or severe angina

Decompensated Congestive Heart Failure

- Severe limitations
- Worsening heart failure
- New-onset heart failure

Severe Valvular Disease

- Severe aortic stenosis
 - Mean pressure gradient >40mm Hg
 - Aortic valve area < 1 cm2
 - Symptomatic

- Symptomatic mitral stenosis
 - Progressive dyspnea on exertion
 - Exertional presyncope
 - Heart failure

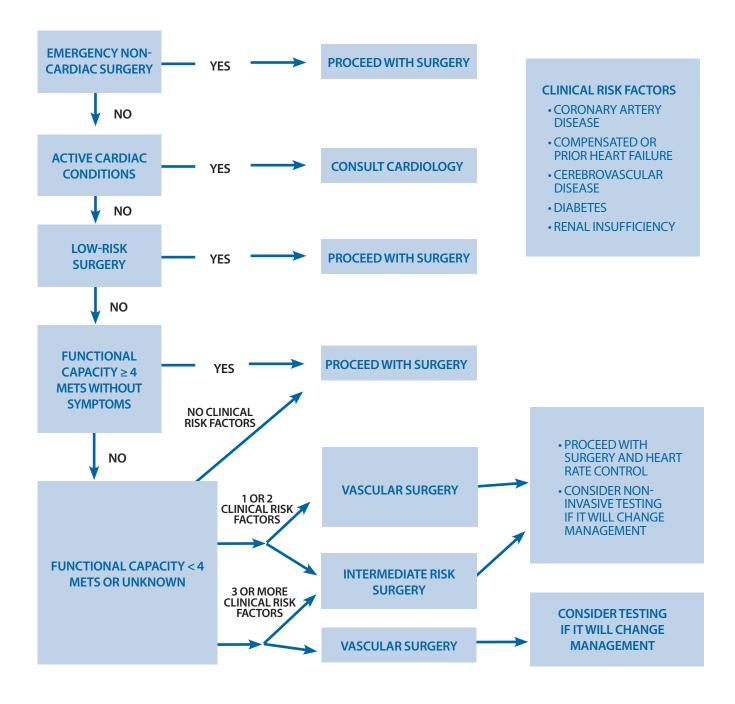
Significant Arrhythmias

- High grade atrioventricular block
- Mobitz II atrioventricular block
- Third degree atrioventricular block
- Symptomatic ventricular arrhythmias
- Supraventricular arrhythmias (includes Atrial Fibrillation) with Uncontrolled Ventricular rate (> 100 bpm at rest)
- Symptomatic bradycardia
- Newly recognized
 ventricular tachycardia

CARDIAC EVALUATION CARE ALGORITHM



After initial evaluation: Is further testing needed?



* See following page for "METS" scoring

FUNCTIONAL CAPACITY (METABOLIC EQUIVALENTS – METS)

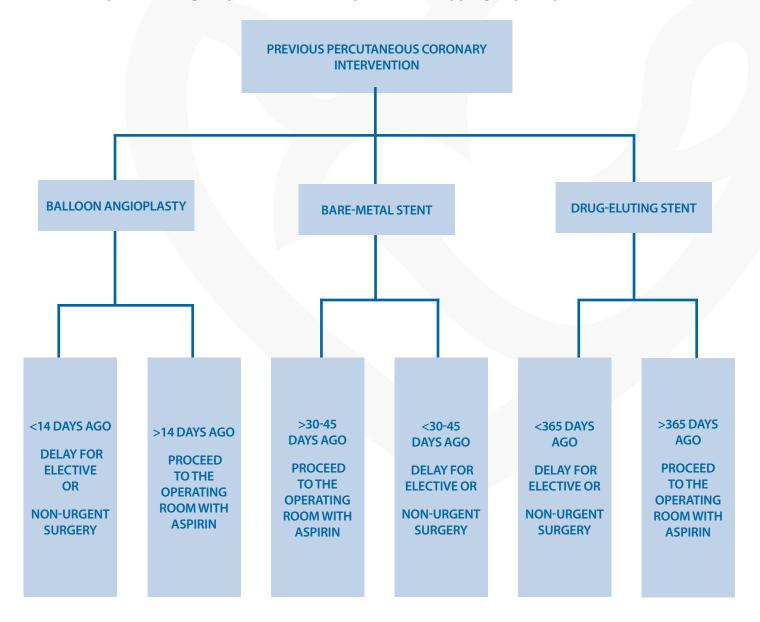
Function: Can Patient	Rating
Walk slowly, less than 2 mph	2
Garden, light	2
General house cleaning	3
Walk briskly, 3 mph	3.3
Heavy yard work or gardening	4
Climb stairs	4
Ride a bicycle, less than 10 mph 4	4
Dance (ballet or modern)	4.8
Snorkel	5
Mow the lawn with a hand mower	5.5-6.0
Shovel snow	6
Hike, strenuous	6-7
Kayak or row	6-8
Ski, downhill	6.8
Ride a bicycle, 10-16 mph	6-10
Aerobic calisthenics	6-10
Play tennis (singles)	7-12
Swim, crawl, slow	8
Run, 8 mph	13.5

STENTS/CARDIAC CATH INFORMATION



Recommendation per cardiology staff:

- Cardiologist to be contacted regarding recommendations for stopping antiplatelet therapy
 - Complex stenting may be an issue that precludes stopping any antiplatelet medication



NPO GUIDELINES

Pre-operative NPO Guidelines for non-emergent surgery in healthy patients without clinical concerns

For patients in whom there does not appear to be reason for clinical concern about increased risk for aspiration, the following guidelines should be observed in non-emergent or "elective" situations:

Up until 8 hours prior to surgery: Food and fluids as needed

Between 4 and 8 hours prior to surgery: Clear liquids (examples below) only. Note clinical concern below for exceptions and strict NPO.

*Infants may have breast milk until 4 hours prior to surgery.

4 hours prior to surgery: No solids or liquids.

Examples of acceptable and unacceptable clear liquids are:

- a. Acceptable: Water, Sprite, Coffee or Tea (no milk or lemon), fruit juice without pulp
- b. Unacceptable: Milk, Coffee or Tea with Milk, Infant Formula, any alcoholic beverage

For infants not at increased risk for aspiration of gastric contents, breast milk may be ingested up to 4 hours prior to surgery.

The individual anesthesiologist should weigh risks and benefits when determining the appropriate fasting interval in these situations.



Pre-operative NPO guidelines in non-emergent situations where there is clinical concern regarding increased risk of aspiration is at least 8 hours. This includes the following patient conditions:

Some examples of reasons for clinical concern regarding increased risk of aspiration are:

- a. Obesity
- b. Diabetes Mellitus with Gastroparesis
- c. Pregnancy
- d. A history of gastroesophageal reflux/hiatal hernia
- e. Bowel obstruction
- f. Potential difficult airway management
- g. Opiate analgesics

PRE-OPERATIVE MEDICATION MANAGEMENT

Drug Class	Action	Reason
Anti-hypertensives and cardiovascular drugs:		
 Angiotension Converting Enzyme (ACE) Inhibitors 	HOLD day of surgery	
 Angiotension Receptor Blockers (ARB) 	HOLD day of surgery	
Beta blockers	Continue day of surgery	
• Digoxin	Continue day of surgery	
 Diuretics and diuretic combinations 	HOLD day of surgery	Increased risk of hypokalemia and hypovolemia
Renin inhibitor	Continue day of surgery	
• Statins	Continue day of surgery	
Anti-Reflux:		
 H2 blockers, proton pump inhibitors 	Continue day of surgery	
• Antacids (e.g. Tums, Mylanta, Carafate)	HOLD day of surgery	
Analgesics:		
• Nonsteroidal anti-inflammatories (NSAIDS)	HOLD day prior to surgery	Increases risk of bleeding and renal complications
• Cox-2 inhibitors	HOLD at least 3 days prior to surgery	
Chronic Amphetamines:		
 Adderall (amphetamine/ dextroamphetamine), Vyvanse (lisdexamfetamine), and Dexadrine (dextroamphetamine) 	HOLD 24 hours prior to surgery	
Diet Meds:		
 Fenfluramine, dexfenfluramine, phentermine, HCG 	HOLD I week prior to surgery	
Opiate Antagonists:		
• Contrave	HOLD 72 hours prior to surgery	
• Naltrexone	HOLD 72 hours prior to surgery	
• Suboxone	HOLD day of surgery	
TNF Blocking Agent		
• Humira (adalimumab)	HOLD 2 weeks prior to surgery	



Drug Class	Action	Reason
Anti-coagulants:		
• Abciximab (Reopro)	HOLD 36-48 hours prior to surgery	Increased risk of bleeding
• Aggrenox	HOLD 7 days prior to surgery	
 Aspirin, aspirin containing compounds 	HOLD 2-5 days prior to surgery	
• Clopidogrel (Plavix)	HOLD 7 days prior to surgery	
• Dabigatran (Pradaxa)	HOLD 24 hours prior to surgery for crcl 15-30; 48 hours for crcl 31-50; 72 hours for crcl >50	
• Dipyridiamole (Presantine)	HOLD 48 hours prior to surgery	
• Direct thrombin inhibitors Argatroban**	HOLD 2 hours prior to surgery	**Check PTT prior to surgery
Bivalirudin**	HOLD 4 hours prior to surgery	
• Eliquis	HOLD 24 hours prior to surgery for low bleeding risk procedures; 48 hours prior for moderate to high bleeding risk	
• Eptifibatide (Integrilin)	HOLD 8 hours prior to surgery	
• Heparin **	HOLD 4 hours prior to surgery	**Check PTT prior to surgery

PRE-OPERATIVE MEDICATION MANAGEMENT

Drug Class	Action	Reason
Anti-coagulants: (continued)		
 Low molecular weight heparin (Fragmin, Lovenox) 	HOLD 24 hours prior to surgery	Check anti-Xa prior to surgery
• Pragurel (Effient)	HOLD 7 days prior to surgery	
• Ticlopidine (Ticlid)	HOLD 10-14 days prior to surgery	
• Warfarin (Coumadin)	HOLD 5 days prior to surgery	Check a PT/INR prior to surgery
• Xarleto	HOLD 24 hours prior to surgery, longer with renal or hepatic impairment	
Herbals	HOLD all herbals 2 weeks prior to surgery	Increased risk of bleeding
Antidepressants:		
 Isocarboxazid (Marplan) Monoamine oxidase inhibitors (MAO-I) Phenelzine (Nardil) Selegiline (Emsam) Tranylcypromine (Parnate) 	TAPER OFF 2 weeks prior to surgery, if approved by prescribing physician	Possible hypertensive crisis, interactions with peri-operative medications
Erectile Dysfunction Drugs:		
Viagra (Sildenafil)Levitra (Vardenafil)	HOLD 24 hours prior to surgery	Unsafe drop in blood pressure
• Cialis (Tadalfil)	HOLD 36 hours prior to surgery	Unsafe drop in blood pressure

METHODIST/WOMEN'S HOSPITAL - ANTICOAGULATION GUIDELINES FOR ANESTHESIA PERCUTANEOUS NEURAXIAL PROCEDURES

Guidelines to prevent Spinal Hematoma following Epidural/Intrathecal/Spine Procedures

Medications:	Time interval for placement of catheter after last dose: *longer in patients with renal impairment (see recommendations below)	Use of antithrombotic agent in patients with indwelling neuraxial catheters:	Time interval for removal of catheter after last dose of medication:	Time interval to restart medication after catheter is removed:
Heparin - full dose IV	When PTT<38 (check at approximately 4 hours after stopping heparin infusion)	CONTRAINDICATED while catheter in place	ICATED r in place	4 hours
Heparin 5000units subcutaneous q8h1/q12hr (prophylaxis)	6 hours	May be given with catheter in place, wait 1 hr after needle placement	6 hours	1 hour
-	No time restriction	No time restrictions for catheter placement after initial one time pre-op dose	er initial one time pre-op	dose
Apixaban (Eliquis), rivaroxaban (Xarelto), edoxaban (Savaysa), betrixaban (Bevyxxa)	72 hours			
Dabigatran (Pradaxa)	5 days			2
Enoxaparin (Lovenox) 40mg subcutaneous q12hr/q24hr or 30mg subcutaneous q12hr/q24hr (prophylaxis)	12 hours*	CONTRAINDICATED while catheter in place	ICATED r in place	4 hours
Enoxaparin (Lovenox) 1 mg/kg ql2hr or 1.5 mg/kg q24hr (treatment)	24 hours*			
For patients receiving heparin or enoxaparin	for more than 4 days, a platelet count should be assessed to evalute for potential heparin-induced thrombocytopenia	ould be assessed to evalute f	or potential heparin-ind	uced thrombocytopenia
Warfarin	When INR <1.5			
Fondaparinux (Arixtra) 2.5 mg subcutaneous q24hr (prophylaxis)	20 20 20			
Fondaparinux (Arixtra) 5-10mg subcutaneous q24hr (treatment)	200			
Argatroban	When PTT<38 (check PTT at approximately: 2 hours		CATED	4 hours
Bivalirudin (Angiomax)	after stoppping bivalirudin*, 4 hours after stopping argatroban)	while catheter in place	r in place	
Abciximab (ReoPro)	48 hours			
Eptifibatide (Integrilin), Tirofiban (Aggrastat)	8 hours*			
Alteplase (TPA) - full dose for stroke, MI, PE, etc	10 days			10 days
Alteplase (TPA) - 2 mg dose for catheter clearance		May be given with no time restrictions	estrictions	
Oral Antiplatelet Agents - contact cardiologist	t prior to stopping Plavix, Effient, Brilinta, Ticlid or Persantine in patients with cardiac stents	clid or Persantine in patients v	vith cardiac stents	
Aspirin/NSAIDs	May be given with no time restrictions IF not being used concurrently with other anticoagulants or antiplatet agents	s IF not being used concurrer	itly with other anticoagul	ants or antiplatet agents
Clopidogrel (Plavix), ticagrelor (Brilinta), dipyridamole (Persantine), dipyridamole + ASA (Aggrenox)	7 days		IC ATED	
Ticlopidine (Ticlid), prasugrel (Effient)	10 days	while catheter in place	r in place	6 hours
Cilostazol (Pletal)	2 days			



ANESTHESIA SERVICES FOR BARIATRIC PATIENTS

Definition and requirements

Location and attached documents

 Basic guidelines for the anesthesia management of metabolic and bariatric patients 	Anesthesia testing guidelines. BMI > obtain EKG; Other testing needed based on the patient's history and physical.
Hemodynamic monitoring	Sedation Protocol
Fluid intake and management	NPO guidelines in anesthesia testing guidelines
 Mobilization and positioning of patients with obesity while under sedation 	Positioning policy, Safe Patient handling Policy, OR bed and carts policy
• Difficult airway management	Anesthesia use of intubation scopes along with glidescopes; All patients are asked regarding difficulty with anesthesia; and airway assessment completed by anesthesia team

DIABETIC PROTOCOL/MANAGEMENT



4 Days prior to Procedure

• Patients should NOT take SGLT2 inhibitors for 4 days prior to their procedure. This includes: Canagliflozin, Dapagliflozin, Empagliflozin, Ertugliflozin

Day prior to Procedure

- Patient should follow anesthesia guidelines regarding
 NPO/clear liquids prior to procedure
- Patient should NOT take Sulfonylureas or Chlorpropamide
- Patient may take usual mealtime insulin doses with evening meal
- Patient should NOT take bedtime doses of Novolog, Humalog, Apidra, or regular insulin
- Patient should administer 70% of routine dose of long acting insulin, Lantus, Levimir, or NPH
- If patient takes an insulin mix at bedtime, consult physician for dosing
- Patient should monitor glucose as usual and treat low blood glucose per current regimen; if NPO treat low blood sugar with a clear liquid that contains sugar (e.g. 7 UP), oral glucose tab, etc.

Morning/Day of Procedure

- Patient should NOT take any oral hypoglycemic
- Patient should NOT take any non-insulin injectable anti-diabetic agents
- Patient should NOT take morning insulin doses (will be administered at the hospital)
- If patient receives routine morning dosing of Lantus or Levimir, administer 50% of routine dose (if surgery is scheduled after 12pm)

FREQUEST CONTACT NUMBERS AND REFERENCES



Surgery Scheduling Office

- Surgery Scheduling Office (402) 354-6223
- Surgery Scheduling Manager: Ronda Gammel (402) 354-4772

Pre-Surgery RN

For questions related to patient preparation, education, or pre-testing needs:

- Pre-Surgery Screening Nurse Call Center (402) 354-5100
 Pre-Surgery Screening FAX (402) 354-4010
 - Pre-Surgery RN Manager: Jasmine Howe (402) 354-5116

Methodist HealthWest

16120 W Dodge Rd.

- OR Desk: (402) 354-0780
- Pre-Op: (402) 354-0783
- PACU: (402) 354-0788
 - HealthWest Surgical Services Manager: Emily McGuire (402) 815-1641

Methodist Hospital (Main) Operating Room

8303 Dodge Street

- OR Front Desk: (402) 354-4744
- OR Nurse Manager: Jenny Miller (402) 354-3019
- Pre-Op Front Desk: (402) 354-4054
 Pre-Op Nurse Manager: Karie Quintana (402) 354-6782
- PACU Front Desk: (402) 354-4197
 - PACU Nurse Manager: Karie Quintana (402) 354-6782

Methodist Outpatient Surgery

8303 Dodge Street

- OR Front Desk: (402) 354-4207
- OR Nurse Manager: Jenny Miller (402) 354-3019
 Pre-Op Front Desk: (402) 354-4206
- Pre-Op Nurse Manager: Karie Quintana (402) 354-6782
- PACU Front Desk: (402) 354-4205
 PACU Nurse Manager: Karie Quintana (402) 354-6782

Methodist Women's Hospital

707 N 190th Plaza

- OR Front Desk: (402) 815-1666
- Pre-Op & PACU: (402) 815-1292
 - Women's Hospital Surgical Services Manager: Emily McGuire (402) 815-1641

References*

Practice Advisory for Pre-anesthesia Evaluation: An Updated Report by the American Society of Anesthesiologists Task Force on Pre-anesthesia Evaluation 2011.

UpToDate: Estimation of cardiac risk prior to non-cardiac surgery

Cochrane Review: Routine Preoperative Medical Testing for Cataract Surgery

Feely MA, Collins CS, Daniels PR, Kebede EB, JROI, MUXK KD, *Preoperative Testing Before NonCardiac Surgery: Guidelines and Recommendations.* Am Fam Physician. 2013:87(6):414-418Preoperative

*List is not all inclusive



REV 11/22 • Anesthesia Services for Bariatric Patients • Pre-Operative Medication Management - Chronic Amphetamine • Frequent Contact Numbers