



AAVBC

AMERICAN ACADEMY OF VALUE BASED CARE

Geriatric Pre-operative Assessment Performance and Use Quick Reference Guide

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VALUE-BASED PRE-OPERATIVE GERIATRIC ASSESSMENT

A **comprehensive geriatric assessment (CGA)** brings function, cognition, mobility, frailty, nutrition, medications, social support, and patient priorities into one longitudinal plan.^{1,2} It is most valuable when the findings change **treatment intensity, procedural decisions, caregiver support, or the location and timing of care.**³

In the older adult (age ≥ 65) being considered for an **elective procedure, CGA is not a rubber stamp** for "clearance." The **highest-volume elective procedures in this population include: major joint arthroplasty** (knee and hip replacement, the single most common elective procedure older adults consider), **ventral and inguinal hernia repair, transcatheter aortic valve replacement, elective spine surgery** (laminectomy or fusion for stenosis), **bariatric surgery**, screening or surveillance **colonoscopy**, and **carotid endarterectomy.**^{4,5} Beyond these, **cataract and other eye surgery, elective colectomy, cholecystectomy, and lower-extremity revascularization** are also frequently performed in older adults and warrant the same functional lens.⁶⁻⁸ Across all of them, CGA is the instrument by which the primary care physician (PCP) **measures physiologic reserve and decides whether the patient can withstand** (and meaningfully recover from) **the stress of an operation.** Frailty is present in **30%-50%** of older patients presenting for major surgery and roughly **doubles the risk of morbidity, mortality, and new patient-reported disability.**⁹ Impaired mobility (e.g., Timed Up and Go > 20 seconds), recent falls, malnutrition, and cognitive impairment **independently predict** complications, prolonged length of stay, institutionalization, and death.^{3,10}



AAVBC PERSPECTIVE

The PCP should use CGA to **protect function and independence, prevent avoidable harm, and decline or defer elective procedural clearance** when the expected burden of recovery exceeds the likely patient-centered benefit.^{3,10}

Elective means there is time and time should be used for **conservative care first.** Before any operative pathway is planned, a genuine trial of **non-operative optimization should be the default:** treating reversible contributors to decline (depression, anemia, hypotension, hypothyroidism, B12 deficiency, adverse drug events, unstable comorbidities), **deprescribing high-risk medications**, correcting malnutrition, initiating smoking cessation, and restoring mobility through structured exercise.^{2,11} **Multimodal prehabilitation**, combining exercise, nutritional therapy, and psychological support, can improve functional capacity and lower postoperative complications, with the largest benefit in the frailest patients.¹⁰ In many cases these measures **restore enough baseline function that the procedure is no longer needed**, or is deferred until reserve is rebuilt.

The high bar for proceeding: A procedure should be planned **only after conservative care has been given a fair trial** and found insufficient, and only when the **risk-benefit balance clearly favors operation** for the outcome that matters most to the patient. The bar rises further when the **anticipated recovery requires post-acute institutional care:** if the burden of recovery risks irreversible loss of independence (prolonged rehabilitation, permanent functional decline, cognitive loss, or nursing-home placement), the rationale for the procedure over continued conservative management **must be extremely compelling and explicitly**

documented.^{3,12} Surgery in older adults carries the distinct feature of **potentially irreversible trade-offs**, so shared decision-making anchored on realistic long-term function, not technical feasibility, is mandatory.^{10,13}

Core Value Standards

STANDARD	OPERATIONAL MEANING ^{13,14}	VALUE PROTECTED ^{13,15}
Conservative care first	Give non-operative optimization (reversible-condition management, deprescribing, nutrition, prehabilitation) a genuine trial before any operative plan	Restored baseline function; procedures avoided or deferred
Assess reserve	Measure what the patient can actually do and recover from (mobility, cognition, nutrition, frailty) rather than relying on age or diagnosis alone	Better treatment intensity and procedural selection
Act on findings	Link each abnormal domain to: an owner, intervention, monitoring interval, and escalation rule	Fewer assessments that document risk without reducing it
Prehabilitate before proceeding	When an operation is genuinely needed, use the elective window to build reserve through supervised aerobic and resistance exercise, protein and nutritional repletion, anemia and glycemic optimization, smoking and alcohol cessation, and psychological support, begun weeks in advance	Higher functional capacity, fewer postoperative complications, and faster return to baseline, with the greatest benefit in the frailest patients
Set a high bar for surgery	Require a compelling, documented rationale when recovery burden risks irreversible inpatient/post-acute care or loss of independence	Fewer low-benefit procedures with catastrophic downside
Preserve function	Favor interventions that: maintain mobility, cognition, nutrition, independence, and caregiver sustainability	More days at home and fewer avoidable transitions



CLINICAL PEARL: FUNCTION OFTEN PREDICTS WHAT DIAGNOSES MISS

A patient with **stable chronic diseases** may still have **little reserve**. A short walk, a transfer, a medication-management check, and a brief cognition screen can reveal risk that a problem list does not. Identifying this vulnerability early can be the difference between an elective procedure that **restores quality of life** and **one that ends independence**.

Who and When to Assess

A comprehensive preoperative assessment is warranted when an **older adult is being considered for a high-burden elective procedure**, particularly when frailty, functional dependence, cognitive vulnerability, multimorbidity, malnutrition, or limited support may affect recovery. The assessment should be completed **before procedural clearance is given**, because its purpose is to identify whether the patient is **ready to proceed, needs optimization first**, or should **pursue a conservative pathway**.

Assessment depth should match the decision. A focused screen may be sufficient for a lower-burden intervention, while a full CGA is appropriate when the **consequences of postoperative decline are substantial** or when recovery may require intensive rehabilitation or institutional care.¹⁶⁻¹⁹

High Volume Geriatric Elective Procedures

ELECTIVE SURGERY/PROCEDURE	PRECLUDING CGA FINDING(S) ^{10,20,21}	PATHOPHYSIOLOGICAL REASON AND ADVERSE OUTCOMES ²²⁻²⁴	ALTERNATIVE CLINICAL APPROACH ²⁵⁻²⁷
Total Joint Arthroplasty (e.g., Elective Knee/Hip Replacement)	TUG ≥15 seconds ; Katz ADL deficits; severe cognitive impairment	High risk of post-op dislocations due to poor compliance with mobility restrictions; inability to participate in mandatory aggressive rehabilitation leads to joint stiffness and failure	Structured physical therapy ; intra-articular steroid or hyaluronic acid injections; advanced pain management
Elective Ventral/Inguinal Hernia Repair	FRAIL Scale ≥4 ; MNA <7 (Severe malnutrition)	High risk of fascial dehiscence, surgical site infection , and poor wound healing; high risk of prolonged post-operative ileus	Abdominal binders ; watchful waiting (unless incarceration occurs); nutritional optimization
Transcatheter Aortic Valve Replacement (TAVR)	Severe baseline dementia ; dependent in ≥3 ADLs	Procedural success does not translate to improved quality of life or functional survival; high risk of post-procedure delirium and accelerated functional decline	Medical management (Optimized diuretics, beta-blockers); palliative care involvement
Elective Spine Surgery (e.g., Laminectomy/Fusion for Stenosis)	Advanced frailty ; severe osteoporosis; Lawton IADL deficits	High rate of hardware failure , adjacent segment disease, and chronic post-laminectomy syndrome; high risk of permanent mobility loss or transition to a long-term care facility	Epidural steroid injections ; physical therapy focused on core stabilization; dedicated pain mapping

ELECTIVE SURGERY/ PROCEDURE	PRECLUDING CGA FINDING(S) ^{10,20,21}	PATHOPHYSIOLOGICAL REASON AND ADVERSE OUTCOMES ²²⁻²⁴	ALTERNATIVE CLINICAL APPROACH ²⁵⁻²⁷
Elective Bariatric Surgery	MoCA <18 ; poor social support	Inability to understand, adhere to, or execute the complex lifelong post-operative dietary, fluid, and vitamin regimens ; high risk of severe metabolic deficiencies	Medically supervised weight management ; nutritional counseling with family/caregiver involvement
Screening/ Surveillance Colonoscopy	Life expectancy <5 years (calculated via ePrognosis) Severe cardiovascular/ renal disease	The procedural risks (bowel perforation, severe dehydration/electrolyte shifts from prep, sedation risks) outweigh any statistical cancer-prevention benefit, which takes 10+ years to manifest	Cease screening entirely; switch to non-invasive testing (FIT) only if the patient has a significant life expectancy and desires intervention if positive
Elective Carotid Endarterectomy (CEA)	High cognitive impairment ; high frailty index	The immediate perioperative risk of stroke or MI outweighs the long-term stroke-prevention benefit in patients with a limited overall lifespan	Maximally tolerated medical therapy (high-intensity statins, antiplatelets, strict BP control)

ABBREVIATIONS: ADL = activities of daily living; BP = blood pressure; CEA = carotid endarterectomy; CGA = comprehensive geriatric assessment; EHR = electronic health record; FIT = fecal immunochemical test; IADL = instrumental activities of daily living; MI = myocardial infarction; MNA = Mini Nutritional Assessment; MoCA = Montreal Cognitive Assessment; TCOC = total cost of care; TUG = Timed Up and Go; TAVR = transcatheter aortic valve replacement

COMPREHENSIVE PREOPERATIVE GERIATRIC ASSESSMENT WORKFLOW

Championed by the **primary care physician** who holds the longitudinal relationship, preoperative CGA reframes the older adult's candidacy for an elective procedure as a **moving target rather than a fixed yes-or-no clearance**. Its first purpose is to **define and pursue conservative, function-preserving care** (optimizing glycemia, nutrition, mobility, medications, and social supports through prehabilitation) so that many patients are appropriately managed without ever proceeding to surgery when the risk-benefit balance does not favor it.^{2,10,28} When conservative measures and targeted optimization succeed, the same iterative assessment can document that a **patient's physiologic reserve** and **modifiable risks have improved enough** to move a previously marginal procedure into a **range where the benefits clearly outweigh the risks**.

Throughout, the assessment is anchored to what matters most to the patient, namely independence, cognition, and quality of life, so that any eventual decision to operate is one that delivers the outcomes the older adult actually values, not merely a technically successful operation.

^{3,18} Reassessment at defined intervals (Step 6) closes the loop, confirming whether function, safety, or symptom burden have improved and whether the trajectory now supports proceeding, continued optimization, or definitive non-operative management.^{2,10}

STEP	DECISION ^{11,16}	REQUIRED OUTPUT ^{16,19}
1 Establish baseline	What was the patient able to do before the current change	Baseline: function (ADLs), cognition, mobility, living situation, and supports
2 Screen domains	Which geriatric vulnerabilities are present	Standardized findings for: function, mobility, cognition, mood, nutrition, frailty, medications, and social risk
3 Identify reversible drivers	Which conditions, drugs, environments, or care gaps may be contributing	Focused diagnostic and medication plan
4 Prioritize	Which findings matter most for: safety, independence, and the patient's goals	Ranked problem list with patient priorities
5 Intervene	Which disciplines and supports can improve the trajectory	Named: referrals, orders, education, and caregiver actions
6 Reassess	Did function, safety, or burden improve	Time-bound follow-up with repeated measures when useful

ABBREVIATIONS: ADL = activities of daily living

Minimum Documentation Set

- **Living arrangement, caregiver availability,** transportation, financial and medication-access barriers^{16,29}
- **ADL and IADL status** with the **specific activities** requiring help^{30,31}
- Mobility aid, falls, gait or transfer observation, and a timed test **when appropriate**^{17,32}
- Cognitive screen, mood screen, nutrition or weight trend, and frailty assessment^{11,19}
- **Medication reconciliation** including nonprescription drugs and high-risk burden^{17,33}
- **What matters most,** decision-maker or surrogate, advance care planning status, and follow-up owner^{34,35}



CLINICAL PEARL: THE PATIENT WHO LIVES ALONE IS A HIGH-RISK SURGICAL CANDIDATE

A patient who **lives alone** can pass every organ-based clearance and **still lack the recovery infrastructure that determines outcome**. In a cohort of more than 210,000 elective operations, patients 75 years or older living alone had nearly **double the odds of discharge to continued care** (aOR 1.79) and a longer length of stay, even without higher readmission or mortality; after orthopedic surgery, they also had higher readmission risk (aOR 1.18).³⁶ **Living alone independently predicts non-home discharge after elective hip arthroplasty** (aOR 2.84) and is associated with prolonged stay and greater need for post-discharge services.³⁷ The absence of an in-home caregiver, not the diagnosis, frequently drives **whether the patient recovers at home or is institutionalized**. Ask early who will be present in the first postoperative days, and arrange transport, home services, and caregiver support **proactively** rather than discovering the gap at discharge.^{36,38}

Older Adult Communication Controls

- **Use hearing and vision aids**; minimize environmental distraction; allow additional response time^{16,17}
- Use **teach-back and written instructions** with **one** reconciled medication list^{17,33}
- Include the chosen caregiver or surrogate **with patient permission**^{34,39}
- **Do not equate** slow speech, hearing loss, low health literacy, or limited English proficiency **with cognitive incapacity**^{39,40}



CLINICAL PEARL: BASELINE CHANGES THE MEANING OF THE FINDING

A new need for help with medications or transfers is often **more important** than a cross-sectional score.^{11,30} Document the **patient's prior baseline** and the date or event when decline began.^{41,42}

Functional, Cognitive, and Frailty Assessment Toolkit

Domain 1 — Functional Status and Mobility Reserve

Impaired baseline function independently predicts complications, prolonged length of stay, non-home discharge, and mortality, and **matters more than chronological age**.^{43,44} Critically, the preoperative window is **not only for stratifying fixed risk but for modifying it**: contemporary preoperative clinics are shifting from pure risk assessment to active risk attenuation, in which reversible parameters (glycemia, weight, nutrition, tobacco use, and physical conditioning) are **optimized before an elective procedure proceeds**, and early physical, occupational, and speech therapy are engaged during rather than after the assessment.^{28,45}

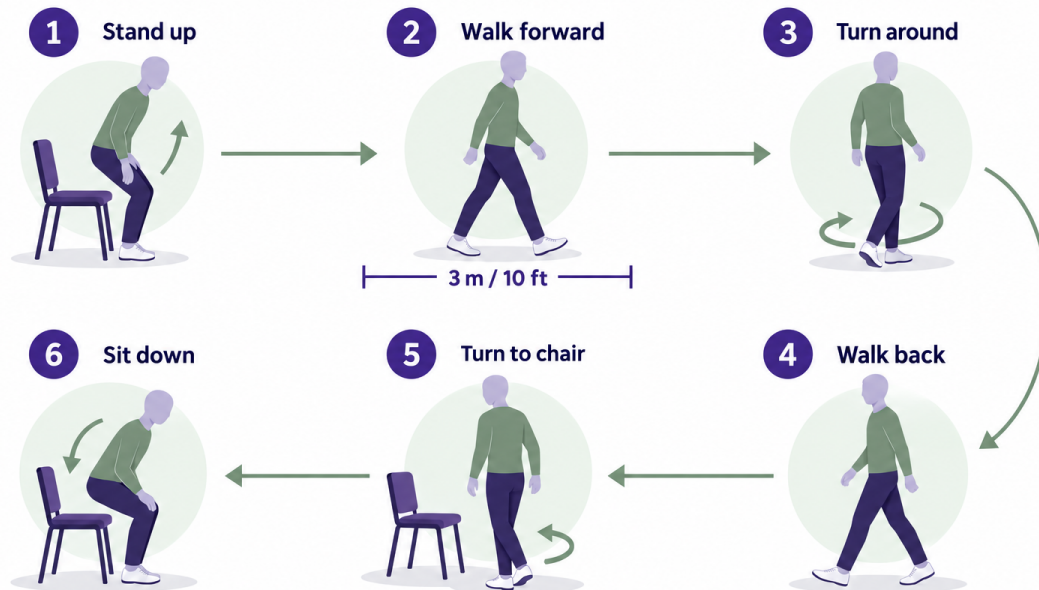
Feasibility therefore hinges on **two linked questions**: what is the patient's **current reserve**, and how much of the **modifiable risk can realistically be corrected** within the available preoperative interval.

INSTRUMENT	WHAT IT MEASURES/RED-FLAG CUTOFF ⁴⁶⁻⁴⁸	INTERPRETATION AND SURGICAL ACTION ^{10,20,47}	TOOL ACCESS
Katz ADL	Bathing, dressing, toileting, transferring, continence, feeding; dependence in ≥1 activity is abnormal	New or existing ADL dependence signals low reserve, higher caregiver need , and non-home discharge risk	Free: alz.org/consultgeri.org ("Try This" series)
Lawton-Brody IADL	Telephone, shopping, meals, housekeeping, laundry, transport, medications, finances (men ≤4, women ≤7 abnormal)	Decline often appears here first; medication- and transport-management deficits directly threaten postoperative adherence	Free: consultgeri.org ("Try This" series)
Timed Up and Go (TUG)	Rise from chair, walk 3 m, return; ≥12 s = elevated fall/complication risk ; ≥15–20 s = markedly low reserve	Predicts: major complications, prolonged stay, delirium, non-home discharge	Free: CDC STEADI (cdc.gov/steady)
Observed task + functional trend	Transfer, gait, medication setup, device use vs. patient's own prior baseline	Confirms whether reported function is executable; change from baseline drives prognosis and level-of-care decisions	Bedside observation
Glycemic control (HbA1c/CGM)	Preop HbA1c <8% within 3 months (individualized); or GMI <8%/ time-in-range >50% ; perioperative glucose 100–180 mg/dL	Hyperglycemia predicts surgical site infection and longer stay ; treat preadmission and defer elective surgery until target met	ADA Standards of Care 2026 (diabetes.org)
Body mass index	Typically BMI >18.5 and <35 ; Institution-specific cutoffs common (e.g., orthopedic TJA); extremes of BMI raise complication risk	Refer to medical/surgical weight-management via shared decision-making	Referral to weight-management program

INSTRUMENT	WHAT IT MEASURES/RED-FLAG CUTOFF ⁴⁶⁻⁴⁸	INTERPRETATION AND SURGICAL ACTION ^{10,20,47}	TOOL ACCESS
Nutrition/serum albumin	MNA (12-14 normal, 8-11 at risk, ≤7 malnourished); albumin <3.2 g/dL predicts SSI; unintentional weight loss	Hypoalbuminemia/malnutrition predicts: SSI, poor wound healing, mortality; initiate protein/nutrition optimization and dietitian referral pre-op	Free: mna-elderly.com
Pulmonary status and smoking	Tobacco use ; consider PFTs/functional capacity in high-risk patients; target ≥4 weeks abstinence before surgery	≥4 weeks abstinence reduces pulmonary and wound complications ; start pharmacotherapy + counseling at first visit	Quitline 1-800-QUIT-NOW; ACC 2018 pathway
Early PT/OT/ST + prehabilitation	Functional/mobility deficits, dysphagia or communication concerns , low 6-min walk distance	Refer to PT/OT (and ST when swallow/communication concerns) at assessment ; multimodal prehabilitation (exercise + nutrition + psychological) lowers overall, pulmonary, and cardiac complications in frail elders	Multidisciplinary prehab referral

ABBREVIATIONS: 6MWD = 6-minute walk distance; ACC = American College of Cardiology; ADA = American Diabetes Association; ADL = activities of daily living; BMI = body mass index; CGM = continuous glucose monitoring; CDC = Centers for Disease Control and Prevention; GMI = glucose management indicator; HbA1c = hemoglobin A1c; IADL = instrumental activities of daily living; MNA = Mini Nutritional Assessment; OT = occupational therapy; PFT = pulmonary function test; PT = physical therapy; SSI = surgical site infection; ST = speech therapy; TJA = total joint arthroplasty; TUG = Timed Up and Go

Timed Up and Go (TUG) Protocol



Domain 2 — Cognitive and Mood Reserve

Preoperative cognitive impairment (prevalence up to ~33% in elective surgical elders) predicts **delirium, readmission, institutionalization, and higher 3- to 6-month mortality**; exclude active delirium (CAM) **before interpreting a cognitive screen**.^{49,50}

INSTRUMENT	WHAT IT MEASURES/ RED-FLAG CUTOFF ⁵¹⁻⁵³	INTERPRETATION AND SURGICAL ACTION ^{2,50,54}	TOOL ACCESS
Mini-Cog	3-item recall + clock draw; ≤ 2 (or ≤ 3) = positive screen	Fast (<5 min), minimal education/language bias; positive screen → formal cognitive workup and capacity/consent review before scheduling	Free: mini-cog.com
MoCA	Multidomain cognition; <18 severe impairment (bariatric example)	Confirmatory after positive Mini-Cog ; guides caregiver-dependent regimens (e.g., bariatric aftercare)	mocacognition.com (certification required)
CAM	Delirium screen	Rule out active delirium before cognitive scoring and before elective booking	Free: consultgeri.org

INSTRUMENT	WHAT IT MEASURES/ RED-FLAG CUTOFF ⁵¹⁻⁵³	INTERPRETATION AND SURGICAL ACTION ^{2,50,54}	TOOL ACCESS
GDS-15/ PHQ-9	Depression screen	Untreated mood disorder worsens recovery and rehab engagement ; optimize preoperatively	Free: consultgeri.org/ phqscreeners.com

ABBREVIATIONS: CAM = Confusion Assessment Method; GDS-15 = 15-item Geriatric Depression Scale; MoCA = Montreal Cognitive Assessment; PHQ-9 = Patient Health Questionnaire-9



CLINICAL PEARL: ANESTHESIA, THE AGING BRAIN, AND THE HEIGHTENED VULNERABILITY OF DEMENTIA

Perioperative neurocognitive disorders (postoperative delirium and longer-term cognitive decline) are the **most common complications of anesthesia and surgery in older adults**: up to ~**65%** of patients ≥ 65 **experience delirium** and ~**10%** develop **persistent decline after noncardiac surgery**, driven by low cognitive reserve, neuroinflammation, and unmasking of preclinical neurodegeneration.^{55,56} **Delirium is not benign**; it predicts **prolonged stay, functional decline, loss of ADLs, institutionalization**, accelerated progression to **dementia**, and **death**.^{57,58}

For patients with **established Alzheimer disease** or **other dementia**, the stakes are **magnified**: preexisting neurocognitive disorder is among the **strongest predictors of postoperative delirium** and delayed recovery, and the resulting decline is often the **trigger for a step-change loss of independence** from which these patients **may not return to baseline**.^{59,60} Notably, general versus regional/neuraxial anesthesia **does not reliably change this risk**, so mitigation should focus on the patient and the process, not the anesthetic route.^{61,62}

Practical implications for the PCP counseling and clearing an older adult (especially with cognitive impairment):

- **Screen and set expectations before scheduling.** Document **baseline cognition** (Mini-Cog) and **exclude active delirium** (CAM/4AT); a positive screen should prompt caregiver-involved planning and **a frank risk-benefit conversation**.^{2,50}
- **Weight the go/no-go toward conservative care** when expected benefit is marginal and recovery burden **threatens irreversible loss of function or independence**.^{10,63}
- **Communicate deliriogenic-drug avoidance:** minimize benzodiazepines, anticholinergics, meperidine, and antipsychotics; favor **opioid-sparing multimodal** and **regional analgesia**.^{64,65}
- **Deploy multicomponent, family-involved delirium-prevention bundles** (orientation, early mobilization, nutrition), which have substantially reduced delirium (e.g., 19.4% $\rightarrow$ 2.6%)^{59,64}

Domain 3 — Frailty and Nutrition

Frailty is present in **30-50%** of older patients presenting for major surgery and roughly **doubles morbidity, mortality, and new disability**; it outperforms age and often ASA class for risk.^{9,66}

INSTRUMENT	WHAT IT MEASURES/RED-FLAG CUTOFF ^{67,68}	INTERPRETATION AND SURGICAL ACTION ^{9,10,69,70}	TOOL ACCESS
FRAIL Scale	Fatigue, Resistance, Ambulation, Illness, Loss of weight; 0 robust, 1-2 pre-frail, ≥3 frail	Rapid self-report screen ; frail status triggers prehabilitation, optimization, and goals-of-care discussion	Free (published tool)
Clinical Frailty Scale	9-point global frailty judgment	Most feasible preoperative instrument per narrative review; predicts : delirium, mortality, non-home discharge	Free: rockwoodfrailty.com
MNA/MNA-SF	Nutritional status; 12-14 normal, 8-11 at risk, 0-7 malnourished	Malnutrition predicts poor wound healing, dehiscence, infection; correct before elective repair	Free: mna-elderly.com
Unintentional weight loss	Recent involuntary loss	Marker of catabolic/frailty state; prompt nutrition optimization and delay if feasible	History

ABBREVIATIONS: CFS = Clinical Frailty Scale; FRAIL = Fatigue, Resistance, Ambulation, Illness, Loss of weight; MNA = Mini Nutritional Assessment; MNA-SF = Mini Nutritional Assessment-Short Form

Structured High-Risk Medication Evaluation

Medication burden is not only a delirium and adverse-event driver; **specific agents determine whether a procedure introduces disproportionate perioperative risk**. Screen every candidate with an explicit tool and separately adjudicate anticoagulants, antiplatelets, and other high-risk drugs.⁷¹

Step 1 — Potentially inappropriate medication (PIM) screen. Apply the **AGS Beers Criteria** (US standard, embedded in many EHRs) and/or **STOPP/START**; both have demonstrated predictive validity for adverse drug events, and the **ACS Geriatric Surgery Verification program** requires a process to flag PIMs perioperatively.^{46,71}

TOOL	SCOPE ^{71,72}	PERIOPERATIVE USE ^{2,50,71}	ACCESS
AGS Beers Criteria (2023)	Explicit list of PIMs , disease-specific avoidances , drugs to use with caution, renal-dose adjustments	Remove/minimize perioperative Beers agents (benzodiazepines, anticholinergics, sedating antihistamines, chronic NSAIDs) via order sets and pharmacy review	AGS/ GeriatricsCareOnline (app: iGeriatrics)
STOPP/ START v2	System-based PIM detection plus prescribing omissions	Identifies inappropriate continuation and beneficial-therapy gaps ; complements Beers	Published (EUGMS)

TOOL	SCOPE ^{71,72}	PERIOPERATIVE USE ^{2,50,71}	ACCESS
ABBREVIATIONS: AGS = American Geriatrics Society; Beers = Beers Criteria for Potentially Inappropriate Medication Use in Older Adults; EUGMS = European Union Geriatric Medicine Society; NSAIDs = nonsteroidal anti-inflammatory drugs; PIMs = potentially inappropriate medications; STOPP/START = Screening Tool of Older Persons' Prescriptions/ Screening Tool to Alert to Right Treatment			

Step 2 — Adjudicate high-risk agents that **change the risk-benefit of the procedure itself**. Count total active medications (polypharmacy ≥ 5) and specifically flag **anticoagulants, antiplatelets, insulin/sulfonylureas, opioids, and immunosuppressants**, then ask whether safe perioperative management is **actually feasible for this patient**.

CONSERVATIVE CARE AND PREHABILITATION STRATEGIES

Prehabilitation is the deliberate, time-limited optimization of **physical function, nutrition, glycemia, and medication safety** before a procedure is scheduled. It serves **two purposes simultaneously**: as **first-line conservative care** that may **circumvent the need for an elective operation**, and as the mechanism that **produces the highest-quality outcome when an operation is genuinely warranted**.^{2,10} For frail older adults, multimodal prehabilitation carries a strong recommendation (**ASCRS 1B**) and reduces overall (OR 0.61), pulmonary (OR 0.41), and cardiac (OR 0.46) complications after major abdominal surgery.¹⁰ Because "waiting list" time is otherwise spent deconditioning, the prehabilitation clock should start at the first specialty-referral conversation, **before procedure planning acquires its own momentum**.⁷³

High-volume elective procedures illustrate why conditioning comes first:

- **Total knee arthroplasty (TKA)**. Moderate-certainty evidence supports preoperative rehabilitation for **improved preoperative function** and **quadriceps strength** and for better **function at 6 weeks postoperatively**, with reduced length of stay; home-based tele-rehabilitation performs at least as well as clinic-based programs. For many older patients with knee osteoarthritis, a structured course of **quadriceps strengthening, weight optimization, and pain management** is both the **conservative alternative and the prehabilitation pathway**; if symptoms remit, arthroplasty may be deferred; if they persist, the patient enters surgery stronger^{74,75}
- **Total hip arthroplasty**. Prehabilitation improves preoperative health-related quality of life and hip abductor strength (moderate-certainty)⁷⁴
- **Elective ventral/inguinal hernia, colorectal, and other major abdominal surgery**. Multimodal exercise-plus-nutrition prehabilitation is the best-supported setting for complication reduction^{76,77}

PT, OT, and SLP Referral Pathways

Early engagement of therapy disciplines **during** (not after) the assessment is what operationalizes prehabilitation; PT/OT referral is among the most common CGA-generated recommendations.²

DISCIPLINE	HIGH-YIELD INDICATIONS ⁷⁸⁻⁸⁰	REFERRAL QUESTION ⁷⁸⁻⁸⁰
Physical therapy	Gait instability ; falls; weakness; pain-limited mobility; deconditioning; need for prehabilitation	Can strength, balance, endurance, transfers, or device use improve safely ?
Occupational therapy	ADL or IADL difficulty ; unsafe home tasks; cognitive-functional mismatch; equipment need	Which task, environmental, or adaptive changes preserve independence ?
Speech-language pathology	Dysphagia ; aspiration concern ; communication disorder; cognitive-communication difficulty	What swallowing, communication, or compensatory strategy is required ?
ABBREVIATIONS: PT = physical therapy; ADL = activities of daily living; IADL = instrumental activities of daily living		

Modifiable Physiologic Targets Before Elective Surgery

Reversible parameters should be brought to target **before an elective date is confirmed**; failure to reach target is itself a **signal to continue conservative care** rather than proceed.

PARAMETER	TARGET RANGE ^{10,47,48,81,82}	RATIONALE/ACTION ^{47,67,76,81,83}
HbA1c (diabetes)	Preoperative A1C <8% within 3 months (individualized; optimal 7–8%); or 14-day GMI <8%/time-in-range >50%	Higher A1C and perioperative hyperglycemia predict surgical site infection and longer stay ; treat preadmission and postpone elective surgery when safe and practical (ESC: postpone if A1C ≥8.5%)
Perioperative glucose	100-180 mg/dL before, during, after surgery	Threshold above which infection/complications rise
Body mass index	Typically BMI >18.5 and <35 ; institution-specific BMI ranges/cutoffs	Extremes of BMI raise complication risk ; use shared decision-making and weight-management referral
Nutrition/albumin	MNA 12-14 normal; albumin ≥3.2 g/dL ; reverse unintentional weight loss	Malnutrition/hypoalbuminemia predicts poor wound healing, dehiscence, infection; dietitian referral, ~20 g protein supplementation timed with exercise
Tobacco	≥4 weeks abstinence before surgery (any cessation helps)	Reduces pulmonary and wound-healing complications ; start pharmacotherapy + counseling (1-800-QUIT-NOW) at first visit
Physical conditioning	≥30 min activity most days; resistance + aerobic prehab; target >5000 steps/day where feasible	Active patients have fewer overall and serious complications

PARAMETER	TARGET RANGE ^{10,47,48,81,82}	RATIONALE/ACTION ^{47,67,76,81,83}
ABBREVIATIONS: A1C = hemoglobin A1C; BMI = body mass index; ESC = European Society of Cardiology; GMI = glucose management indicator; HbA1c = hemoglobin A1c; MNA = Mini Nutritional Assessment; TJA = total joint arthroplasty		

High-Risk Medication Deprescribing

Deprescribing during prehabilitation reduces falls, delirium, and bleeding risk, but it carries a **critical caveat**: when a drug **cannot** be safely held perioperatively, **that constraint itself should trigger a conservative-care conversation** rather than an assumption that the procedure will proceed.

Anticoagulants and Antiplatelets

Perioperative anticoagulants and antiplatelets management requires **thromboembolic-versus-bleeding-risk stratification** and **multidisciplinary input** (pharmacy, cardiology, hematology, anesthesia).^{84,85}

- **Warfarin**: hold ~5 days pre-op; **therapeutic-dose LMWH bridging** reserved for **high thromboembolic risk** (mechanical mitral valve, older-generation valves, recent VTE/stroke, antiphospholipid syndrome). Routine bridging in lower-risk patients **increases bleeding** without reducing thromboembolism^{84,85}
- **DOACs** (apixaban, rivaroxaban, edoxaban, dabigatran): hold **~1 day** (minor) to **2 days** (major bleeding risk), longer with renal impairment/dabigatran; **no heparin bridging**⁸⁶
- **Aspirin**: **generally continued for secondary prevention** unless high intracranial/spinal/major bleeding risk; do not start de novo perioperatively (**POISE-2**)^{86,87}
- **P2Y₁₂ inhibitors**: clopidogrel/ticagrelor held **~5 days**, prasugrel **~7 days**; recent coronary/carotid stent **mandates cardiology consultation** and may require deferring elective surgery (drug-eluting stent ≥1 year)^{86,88}

The decisive question for the older adult patient: if bridging is required but the patient cannot reliably self-administer LMWH (or would need inpatient heparin), **is the elective procedure worth that added bleeding exposure and logistical burden?** A "no" is a legitimate, **evidence-consistent conservative-care outcome**.



MAKING CONNECTIONS

Consult the [Anticoagulant Utilization](#) and [Antiplatelet Utilization QRGs](#) for value-based care perspectives on additional perioperative medication considerations.

Sedative-Hypnotics (Benzodiazepines and Z-Drugs)

Long-term benzodiazepine and Z-drug use is a **high-priority deprescribing target** in the older surgical candidate and a Beers-listed class to avoid; these agents more than **double the risk of falls and hip fractures** and are independently associated with delirium, cognitive impairment, and motor vehicle accidents.^{89,90} **The timing of exposure matters**: chronic preoperative use is significantly associated with postoperative delirium, whereas a single short-acting premedicant

dose immediately before surgery is not—so the deprescribing effort should focus on tapering chronic use during prehabilitation rather than simply omitting a dose on the day of surgery.⁹¹ **Perioperative benzodiazepines do not improve pain control or recovery**, and postoperative use is strongly associated with incident delirium (OR ~3.0).⁹⁰

- **Chronic use:** taper gradually during the prehabilitation window (abrupt withdrawal risks seizures and rebound anxiety); substitute **nonpharmacologic sleep and anxiety management**^{89,90}
- **Avoid perioperative initiation for insomnia or anxiety;** use behavioral interventions first-line¹²

NSAIDS

Non-selective NSAIDs (ibuprofen, naproxen) are **typically held 1-3 days before surgery** for reversible platelet inhibition and renal risk, and are a Beers class to **use cautiously in older adults** given gastrointestinal bleeding and renal impairment.^{71,86}

Glucose-Lowering Agents

Newer agents require deliberate, **class-specific timelines** that a same-day hold does not satisfy:

- **SGLT2 inhibitors** (canagliflozin, dapagliflozin, empagliflozin): **hold 3 days before surgery; ertugliflozin 4 days** to reduce euglycemic DKA risk (2024 AHA/ACC perioperative guideline SR class 1; ADA holds 3–4 days). Euglycemic DKA **can present with near-normal glucose** → maintain a **high index of suspicion**^{47,92}
- **GLP-1 receptor agonists** (semaglutide, dulaglutide, tirzepatide): ASA recommends holding **weekly formulations >1 week** and **daily formulations 1 day before** surgery for **aspiration risk** from delayed gastric emptying; a more recent consensus supports individualized, shared decision-making when the patient is not in dose escalation and has no GI symptoms⁹³
- **Metformin:** hold the day of surgery until oral intake resumes (**lactic acidosis concern**)⁴⁷
- **Sulfonylureas and insulin:** withhold or dose-reduce on the **day of surgery to avoid hypoglycemia** during fasting⁴⁷

Cardiovascular Agents (Hemodynamic Stability)

- **ACE inhibitors/ARBs:** in select patients on chronic RAASi for hypertension undergoing elevated-risk surgery, **omission ~24 hours before surgery** may reduce intraoperative hypotension (2024 AHA/ACC COR 2b); however, RCTs (**POISE-3**) have not shown that interruption improves clinical outcomes, so **management is individualized**. For HFrEF, perioperative continuation is reasonable (**COR 2a**). No data exist for perioperative sacubitril/valsartan^{92,94}
- **Beta-blockers: do not stop** → continue chronically prescribed beta-blockers through the perioperative period, as **abrupt withdrawal causes rebound tachycardia, hypertension, and ischemia**; take the morning of surgery. Do not initiate high-dose beta-blockade de novo just before surgery^{87,92}

Chronic Corticosteroids (Adrenal and Wound-Healing Risk)

Chronic steroid use (e.g., prednisone >5 mg/day for >3 weeks within the past year) **suppresses the hypothalamic-pituitary-adrenal axis**; the anesthesia team must be notified to consider stress-dose coverage against **adrenal crisis**.^{95,96} Beyond adrenal risk, chronic corticosteroids independently raise **perioperative morbidity** (longer stay, readmission (58%), reoperation, and mortality (32%) in a >5-million-patient NSQIP analysis) and **increase postoperative VTE risk** (pooled RR ~1.5).^{97,98} Where feasible, taper to the **lowest effective dose before elective surgery**; there is no evidence supporting routine stress-dose steroids in all chronic users.⁹⁹

Anti-VEGF Agents

Bevacizumab and related anti-VEGF drugs **must be held several weeks before elective surgery** because of markedly **impaired wound healing** and **risk of GI perforation**; coordinate timing with oncology, as this often meaningfully constrains the surgical window.¹⁰⁰

Psychiatric and Opioid-Related Agents

- **MAOIs**: require anesthesia coordination well ahead of surgery → **fatal hypertensive crises** can occur with sympathomimetics (ephedrine) and **serotonin syndrome** with meperidine; do not stop abruptly without psychiatric input¹⁰¹
- **Chronic opioids**: **never abruptly discontinue**; continue the baseline regimen and plan multimodal analgesia, as preoperative opioid use **predicts difficult postoperative pain control**¹⁰²
- **Buprenorphine** (including buprenorphine/naloxone): current practice favors **continuing the home maintenance dose perioperatively** (with consideration of dose reduction to increase μ -receptor availability), coordinated with the prescriber and pain team, rather than routine preoperative discontinuation^{103,104}
- **Naltrexone**: for elective surgery expected to need opioid analgesia, discontinue **oral naltrexone ~72 hours** and plan for extended-release **injectable naltrexone washout ~4 weeks** (active 28 days); coordinate multimodal non-opioid analgesia¹⁰⁴

The same decisive question applies across these classes: if a required hold is **not logistically feasible**, if a drug that **cannot be safely stopped** (chronic steroids, buprenorphine, MAOIs) materially **raises operative risk**, or if the **washout interval exceeds the acceptable delay**, that constraint should **reopen the conservative-care conversation** rather than default to proceeding.

Deprescribing Sequence

- **Reconcile**: every prescription, nonprescription drug, supplement, actual dose, and actual use^{33,105}
- **Identify**: no-indication, duplicate, interacting, high-risk, or low-time-to-benefit treatment, using Beers and/or STOPP/START^{33,106}
- **Prioritize drugs contributing to**: falls, orthostasis, sedation, confusion, bleeding, kidney injury, or poor intake^{32,107}

- Taper when **withdrawal or rebound is possible**; assign monitoring and restart criteria; flag agents that cannot be safely held as a **conservative-care trigger**^{33,108}
- **Communicate changes to**: specialists, pharmacy, caregivers, and the next care setting^{33,42}



CLINICAL PEARL: DEPRESCRIBING IS A MONITORED INTERVENTION

Stopping a drug is not complete until the team documents: the reason, taper if needed, expected benefit, symptoms to watch, and follow-up owner.^{33,105}

Nutrition Optimization and Dietician Referral

Nutritional therapy is a core pillar of prehabilitation and synergizes with exercise.^{109,110} Refer patients with MNA "at risk/malnourished," low albumin, or unintentional weight loss for **individualized counseling emphasizing protein intake** (~20 g protein supplement timed within ~30 minutes of exercise to maximize muscle protein synthesis), nutrient-dense meals, and hydration; tailor for comorbidities (lower-sugar supplements in diabetes; avoid added protein loads in advanced CKD).^{111,112} Correcting malnutrition **lowers ileus, supports wound healing, promotes normoglycemia, and preserves lean mass.**^{113,114}

Home Safety Optimization

Matching the recovery setting to the patient's function and support is what **determines whether prehabilitation gains translate into a safe recovery at home.**

NEED PATTERN	POTENTIAL SETTING OR SUPPORT ¹¹⁵⁻¹¹⁷	DECISION FACTOR ¹¹⁵⁻¹¹⁷
Stable with targeted need	Outpatient therapy ; community service; caregiver training	Transportation ; cognition; adherence; home safety
Homebound with skilled need	Home health nursing or therapy	Skilled eligibility ; caregiver support; safe access; measurable goals
Daily skilled rehabilitation need	Skilled nursing facility or inpatient rehabilitation as clinically indicated	Medical stability ; therapy tolerance; nursing need; expected improvement
Long-term assistance need	Personal care ; assisted living ; memory care; long-term care	ADLs ; supervision ; finances ; behavior; caregiver sustainability
Serious illness with comfort priority	Home-based palliative care or hospice when eligible and aligned	Goals ; prognosis; symptom burden; caregiver and home capacity
ABBREVIATIONS: ADLs = activities of daily living		

PATIENT RISK-BENEFIT DISCUSSION FOR ELECTIVE PROCEDURES

Anchoring the Conversation Early and Revisiting It

Begin the risk-benefit discussion **at the first referral conversation**, not at the time of scheduling, so that the interval before a possible procedure is used for optimization rather than passive waiting.^{2,13} **Return to it at each prehabilitation checkpoint:** as function, glycemia, nutrition, and medication safety change, so does the risk-benefit balance and, sometimes, the need for the procedure at all.¹¹⁸ Improving physiologic reserve may relieve symptoms enough that the **elective procedure is deferred or avoided**.¹⁰

Risk Communication

- Describe the **chance of returning to the patient's own baseline** rather than discussing mortality alone^{3,31}
- Discuss **delirium, rehabilitation duration, caregiver burden, discharge setting**, and possible **loss of independence**^{18,115}
- **Frame trajectories concretely:** state the specific targets (e.g., TUG, HbA1c, albumin, tobacco abstinence) that would **qualify the patient for a lower-risk procedure**, and the thresholds at which **conservative care** remains the recommendation
- **Make the recommendation explicit:** do not proceed because **burden outweighs expected benefit**; reconsider **after reaching prehabilitation goals**; defer for reassessment; proceed^{13,119}

A structured scenario-planning aid can make these trajectories tangible for patients and families. The **Best Case/Worst Case framework** replaces discrete risk percentages with plausible health trajectories for each pathway (surgery vs. supportive care), which is particularly useful when the most likely outcome involves prolonged recovery or functional decline.

Using the 5Ms at the Visit

- **Begin with Matters Most** so screening does not become a disconnected checklist^{105,119}
- Identify **one high-risk issue in each relevant domain** and assign one next action^{16,17}
- Show relationships between domains such as **sedative use, falls, poor appetite**, and **caregiver strain**^{16,29}
- Close with **who owns each action** and **when the patient will be reassessed**^{42,105}

5M	ASSESSMENT FOCUS ^{16,17,105}	PLAN EXAMPLES ^{16,105}
Mind	Cognition; delirium; depression; communication	Cognitive evaluation; mood treatment; sensory support; delirium prevention
Mobility	Falls; gait; balance; pain; endurance; transfer ability	PT; assistive device; exercise; home safety; pain strategy
Medications	Indication; burden; interactions; renal dosing; adherence	Reconciliation; deprescribing; simplification; monitoring
Multicomplexity	Competing conditions; prognosis; caregiver and social context	Prioritized care plan; reduced fragmentation; level-of-care support
Matters Most	Goals; acceptable burden; preferred function and living setting	Shared decisions; advance care plan; goal-concordant treatment intensity

ABBREVIATIONS: PT = physical therapy

Social Determinants of the Post-Acute Episode

The recovery infrastructure at home frequently determines outcome as much as the operation itself, and it must be assessed and built during prehabilitation, **not discovered at discharge**.^{67,120} **Key elements:**

- **Caregiver capacity**—Assess **who** will provide care in the first postoperative days, **that person's capacity**, and any relational strain, using a **formal caregiver-needs screen**; new or unexpected caregiving after surgery raises readmission risk, and **preexisting caregiver strain predicts postoperative functional decline**. Fewer than half of people performing caregiving tasks self-identify as caregivers, delaying access to education and support^{38,121}
- **Living situation and home environment**—Clarify who is present, meal provision, **stairs**, bathing/toileting, prescription access, carpeting and fall risks, and durable medical equipment needs before admission^{50,122}
- **Proactive discharge planning**—Screen and plan before surgery; anticipatory discharge planning with **home services and equipment** is associated with **shorter stays** and **fewer ED revisits** and readmissions^{67,123}
- **Structured education and follow-up**—Provide realistic recovery timelines, skills training (e.g., wound care), and a clear route to post-discharge support with early PCP–surgeon communication^{12,124}



CLINICAL PEARL: PREHABILITATION RAISES THE ODDS OF GOING HOME

Multicomponent prehabilitation (exercise plus nutrition, with psychosocial support) **reduces postoperative complications** and **shortens length of stay** in frail and high-risk older adults, and improves preoperative functional capacity, the reserve that makes **home discharge** and **full recovery achievable**.^{76,125} Conversely, prehabilitation has not reliably reduced 30-day readmission, which reinforces that conditioning **must be paired with the social and discharge planning** above to keep the patient home.^{126,127}



QUALITY OUTCOME: ONE COHERENT PLAN

A successful assessment reduces contradictory recommendations and converts multiple geriatric risks into **a single prioritized plan** the patient and caregiver can carry out. The plan names the trajectory toward either a **lower-risk procedure** or **goal-concordant conservative care**, with explicit ownership and a reassessment date.

THE ELECTIVE PROCEDURE DECISION PATHWAY

The PCP should move through the following sequence **before issuing clearance**:

STEP	DECISION ^{3,13,128}	PCP ACTION ^{1,2,50}
1. Confirm the indication	What meaningful patient-centered outcome is expected?	Clarify the indication, expected benefit, symptom burden, functional goal, and available conservative or less burdensome alternatives
2. Establish baseline	What can the patient do now, and what was their prior baseline ?	Document: ADLs, IADLs, mobility, cognition, living setting, caregiver support, and recent functional trajectory
3. Assess reserve	Can the patient withstand and recover from the physiologic and functional stress?	Assess: frailty, mobility, cognition, nutrition, comorbidities, medications, and rehabilitation capacity
4. Optimize what is reversible	Can risk or limited reserve be improved before the procedure?	Treat reversible contributors, deprescribe high-risk medications , address nutrition, initiate prehabilitation, optimize disease control, and address smoking or alcohol use when relevant

STEP	DECISION ^{3,13,128}	PCP ACTION ^{1,2,50}
5. Estimate recovery burden	What happens if recovery is prolonged or incomplete?	Consider delirium, loss of mobility, rehabilitation duration, caregiver burden, discharge destination , and the likelihood of returning to baseline
6. Make the clearance recommendation	Does expected benefit justify the total burden?	Proceed; proceed after optimization; defer and reassess; or do not recommend the elective procedure
7. Communicate and close the loop	Can the decision be executed safely?	Communicate the CGA findings and recommendation to the procedural team, define unresolved items and owners , and reassess if the patient's status changes

ABBREVIATIONS: PCP = primary care physician; ADL = activities of daily living; IADL = instrumental activities of daily living; 5M = Mind, Mobility, Medications, Multicomplexity, Matters Most

Clearance Recommendation Language

- “Proceed because **expected benefit exceeds risk** and **recovery support is adequate**”^{3,18}
- “Proceed **after** named optimization items and **confirm completion before surgery**”^{2,14}
- “Defer and reassess because **modifiable risk currently makes recovery unsafe or unlikely**”^{2,10}
- “Do not recommend the elective procedure because **expected burden exceeds likely patient-centered benefit**”^{129,130}



CLINICAL PEARL: CLEARANCE IS A RECOMMENDATION, NOT A CHECKBOX

State the **geriatric risk**, how it **changes the expected outcome**, what **can be modified**, and **whether the benefit remains worth the recovery burden**.^{3,18}



MAKING CONNECTIONS

Use the **AAVBC Post-Acute Care Utilization QRG** for hospital discharge placement, home readiness, rehabilitation intensity, concurrent review, and prevention of overprescribed or underprescribed post-acute care.



AAVBC PERSPECTIVE

Conservative management is active patient advocacy. When reserve is poor and benefit is limited, **avoiding a burdensome intervention** may better protect comfort, function, and time at home.^{116,130}

ELECTIVE PROCEDURE DECISION EXAMPLES

PROCEDURE	VALUE QUESTION ^{129,131-136}	GERIATRIC DECISION POINTS ^{3,129,131,132,134-137}
Joint replacement	Will pain and function improve enough to justify rehabilitation ?	Mobility baseline ; frailty; cognition; nutrition; home support; patient goals
Hernia repair	Does symptom or complication risk justify operative burden ?	Symptoms; incarceration risk; reserve; watchful waiting feasibility
TAVR	Will survival and function improve rather than prolong dependence?	Frailty; cognition; comorbidity; life expectancy; functional trajectory
Spine surgery	Is there a correctable structural cause with realistic functional gain?	Neurologic deficit ; pain source; frailty; delirium and rehabilitation risk
Bariatric surgery	Will metabolic and functional benefit exceed nutritional and operative risk ?	Frailty; cognition; adherence capacity; nutrition; support
Screening colonoscopy	Will detection produce benefit within life expectancy and patient goals ?	Prior screening ; comorbidity; procedural risk ; willingness to treat findings
Carotid endarterectomy	Is stroke-reduction benefit likely within the patient's horizon?	Symptoms; stenosis; perioperative risk ; frailty; life expectancy

Procedure Decision Controls

- Use **procedure-specific evidence** and **specialist input** after the geriatric risk picture is established^{13,15}
- **Offer**: conservative, minimally invasive, symptom-directed, or palliative alternatives **when expected benefit is low**^{116,130}
- **Revisit the decision if**: function, cognition, nutrition, goals, or prognosis changes before the procedure^{18,119}



MAKING CONNECTIONS

Use the **AAVBC Value-Based Elective Total Knee Replacement QRG** for knee-specific medical necessity, conservative care, optimization, site-of-care, quality, and episode-management guidance.

PRE-OPERATIVE CONSULTATION TEMPLATE

Step 1 - Comprehensive Geriatric Assessment

DOMAIN	DOCUMENT ^{1,17,68}
Function and mobility	Katz ADL; Lawton-Brody IADL; falls; TUG or observed gait; device use; baseline and trend
Cognition and mood	Mini-Cog or MoCA ; delirium history; capacity concern; GDS-15 or PHQ-9
Frailty and nutrition	FRAIL or other validated tool; weight trend; MNA short form; oral or swallowing concern
Medications and support	Reconciled regimen ; high-risk burden; caregiver; home; transportation; surrogate; goals

ABBREVIATIONS: Katz ADL = Katz Index of Independence in Activities of Daily Living; Lawton-Brody IADL = Lawton-Brody Instrumental Activities of Daily Living; TUG = Timed Up and Go; MoCA = Montreal Cognitive Assessment; GDS-15 = 15-item Geriatric Depression Scale; PHQ-9 = Patient Health Questionnaire-9; FRAIL = Fatigue, Resistance, Ambulation, Illnesses, and Loss of weight; MNA = Mini Nutritional Assessment

Step 2 - Map Findings to Outcomes (each red flag defaults toward conservative care until corrected)

Screen for the following high-impact adverse outcomes; when a red flag is identified and cannot be modified, the **conservative** (non-procedural) **pathway becomes the default recommendation** unless a compelling, goal-concordant reason to proceed is documented:

- **Delirium** and **cognitive decline risk**^{18,41}
- Falls, immobility, rehabilitation failure, and loss of independence^{32,131}
- Infection, wound, nutrition, medication, and **cardiopulmonary risk**^{2,68}
- **Likely discharge setting**, caregiver burden, and probability of returning to baseline^{3,115}

Step 3 - Optimization and Orders (attempt to convert a red flag to a modifiable target before proceeding)

An identified red flag triggers a **time-limited optimization trial rather than automatic clearance**; if the reversible contributor cannot be corrected within the acceptable preoperative

interval, **default to the conservative pathway and reassess**. List **only clinically indicated interventions**: therapy or prehabilitation; nutrition plan; medication changes; disease optimization; delirium bundle; caregiver training; home or post-acute planning; and specialty coordination.^{2,18} Medication interruption or bridging **must be individualized to**: the drug, indication, kidney function, procedure, and thromboembolic and bleeding risks; when safe perioperative management is not feasible, **that constraint itself favors conservative care**.^{18,138}

Step 4 - Recommendation Summary

The default recommendation is conservative care when **unmodifiable red flags outweigh expected benefit**; select "proceed" only when benefit is goal-concordant and residual risk is acceptable.

Example 1: PROCEED

Patient: 71-year-old man, **cataract surgery** (right eye), for improved vision and fall prevention

Step 1 — Comprehensive Geriatric Assessment

DOMAIN	FINDINGS
Function and mobility	Katz ADL 6/6 (independent); Lawton-Brody IADL intact ; no falls in past year; TUG 9 seconds ; no device use; function stable vs. 1-year baseline
Cognition and mood	Mini-Cog 5/5 (negative screen); no delirium history; PHQ-9 2/27 (no depression)
Frailty and nutrition	FRAIL Scale 0 (robust); weight stable ; MNA 13 (normal); no swallowing concerns
Medications and support	3 medications (lisinopril, atorvastatin, metformin), no Beers-listed agents ; lives with spouse who can drive him to/from procedure; no surrogate needed; goal is to keep driving and reading

ABBREVIATIONS: Katz ADL = Katz Index of Independence in Activities of Daily Living; Lawton-Brody IADL = Lawton-Brody Instrumental Activities of Daily Living; TUG = Timed Up and Go; Mini-Cog = Mini-Cog Assessment; PHQ-9 = Patient Health Questionnaire-9; FRAIL = Fatigue, Resistance, Ambulation, Illnesses, and Loss of weight; MNA = Mini Nutritional Assessment

Step 2 — Map Findings to Outcomes

No red flags identified across delirium/cognitive, falls/mobility, infection/nutrition/medication, or discharge-setting domains. Low-burden, high-benefit procedure with local anesthesia and no inpatient recovery requirement.

Step 3 — Optimization and Orders

None indicated; no modifiable risk factors requiring correction before scheduling.

Step 4 — Recommendation Summary

- **Expected benefit:** Restored visual acuity, reduced fall risk, preserved independence (driving, reading)
- **Main geriatric risks** (red flags identified): None

- **Modifiable items, owner, and result of optimization trial:** N/A
- **Unmodifiable red flags favoring conservative care:** None
- **Patient goals:** Maintain independence and visual function for driving and daily activities
- **Recommendation:** Proceed — expected benefit exceeds risk and recovery support is adequate
- **Follow-up date:** Routine post-op visit per surgical team; no additional geriatric follow-up required

Example 2: PROCEED AFTER OPTIMIZATION

Patient: 76-year-old woman, **elective total knee arthroplasty for osteoarthritis**, poorly controlled diabetes and mild deconditioning

Step 1 — Comprehensive Geriatric Assessment

DOMAIN	FINDINGS
Function and mobility	Katz ADL 6/6; Lawton-Brody IADL intact; TUG 13 seconds (mildly elevated); pain-limited gait; no falls
Cognition and mood	Mini-Cog 4/5 (negative); GDS-15 3/15 (no depression)
Frailty and nutrition	FRAIL Scale 1 (pre-frail: fatigue only); MNA 12 (normal, low end); weight stable
Medications and support	HbA1c 9.1% (above target); metformin and glipizide , no other Beers agents; lives alone but daughter nearby and available for first 2 weeks post-op; goal is to walk without pain and remain in her own home

ABBREVIATIONS: Katz ADL = Katz Index of Independence in Activities of Daily Living; Lawton-Brody IADL = Lawton-Brody Instrumental Activities of Daily Living; TUG = Timed Up and Go; Mini-Cog = Mini-Cog Assessment; GDS-15 = 15-item Geriatric Depression Scale; FRAIL = Fatigue, Resistance, Ambulation, Illnesses, and Loss of weight; MNA = Mini Nutritional Assessment; HbA1c = hemoglobin A1c

Step 2 — Map Findings to Outcomes

Red flag: HbA1c 9.1% exceeds the preoperative target (<8%, individualized), predicting **elevated surgical site infection risk** and **longer stay**. Mildly elevated TUG and pre-frail status indicate **reduced but modifiable reserve**. Living alone raises non-home discharge risk (per cohort data, living alone predicts nearly double the odds of discharge to continued care) but is mitigated by an identified, available caregiver.

Step 3 — Optimization and Orders

- **Diabetes optimization:** adjust regimen with primary care/endocrinology, target HbA1c <8% or GMI <8%/time-in-range >50% **before scheduling**; recheck in 8 to 12 weeks
- **Prehabilitation referral: quadriceps strengthening** and general conditioning, home-based or clinic-based, for 4 to 6 weeks

- **Nutrition:** continue current intake, no dietitian referral required (MNA normal)
- **Discharge planning:** confirm daughter's availability and home safety (stairs, bathroom access) before final scheduling
- **Deprescribing:** none required (no Beers-listed agents identified)

Step 4 — Recommendation Summary

- **Expected benefit:** Pain relief, restored mobility, continued ability to live independently
- **Main geriatric risks** (red flags identified): **Uncontrolled diabetes** (HbA1c 9.1%); mild deconditioning; living alone
- **Modifiable items, owner, and result of optimization trial:** Glycemic control (PCP/endocrinology, recheck HbA1c in 8 to 12 weeks; prehabilitation), PT referral, reassess TUG at 6 weeks; **caregiver plan:** confirmed with daughter, home safety walkthrough scheduled
- **Unmodifiable red flags favoring conservative care:** None
- **Patient goals:** Walk without pain; remain in own home
- **Recommendation:** Proceed after named optimization items and confirm completion before surgery
- **Follow-up date:** Recheck HbA1c and TUG in 8 weeks; **re-review before final surgical scheduling**

Example 3: DEFER AND REASSESS

Patient: 82-year-old man, **elective ventral hernia repair**, with **malnutrition** and **recent unintentional weight loss**

Step 1 — Comprehensive Geriatric Assessment

DOMAIN	FINDINGS
Function and mobility	Katz ADL 5/6 (needs help bathing); Lawton-Brody IADL: needs help with meals and finances; TUG 16 seconds (markedly elevated); one fall in past 6 months
Cognition and mood	Mini-Cog 3/5 (borderline positive); no active delirium (CAM negative); PHQ-9 8/27 (mild depressive symptoms)
Frailty and nutrition	FRAIL Scale 3 (frail); MNA 6 (severely malnourished); 12-lb unintentional weight loss over 4 months
Medications and support	9 active medications including a chronic benzodiazepine (lorazepam, nightly for 3 years) and chronic prednisone 7.5 mg/day; lives alone ; no regular caregiver identified; hernia is reducible with no signs of incarceration

ABBREVIATIONS: Katz ADL = Katz Index of Independence in Activities of Daily Living; Lawton-Brody IADL = Lawton-Brody Instrumental Activities of Daily Living; TUG = Timed Up and Go; Mini-Cog = Mini-Cog Assessment; CAM = Confusion Assessment Method; PHQ-9 = Patient Health Questionnaire-9; FRAIL = Fatigue, Resistance, Ambulation, Illnesses, and Loss of weight; MNA = Mini Nutritional Assessment

Step 2 — Map Findings to Outcomes

Multiple red flags: severe malnutrition (MNA 6, predicting fascial dehiscence, surgical site infection, and prolonged ileus), **frailty** (FRAIL 3), **elevated TUG**, unintentional weight loss, borderline cognitive screen, **chronic benzodiazepine use** (falls/delirium risk), **chronic corticosteroid use** (adrenal suppression, elevated perioperative morbidity), and **absence of an identified caregiver**. Hernia is **currently reducible**, so watchful waiting is clinically safe.

Step 3 — Optimization and Orders

- **Nutrition:** dietitian referral for **protein repletion** (~20 g protein supplement with exercise); recheck MNA and weight in 6 weeks
- **Deprescribing:** begin **gradual benzodiazepine taper** (not abrupt discontinuation) with nonpharmacologic sleep support; document taper plan, monitoring, and follow-up owner
- **Corticosteroid:** coordinate with prescribing physician on **tapering to lowest effective dose** if the underlying condition allows; if steroid cannot be safely tapered, **flag as a potential unmodifiable constraint** at reassessment
- **Cognitive workup:** formal evaluation given **borderline Mini-Cog** before any future procedural consent discussion
- **Mood:** initiate depression treatment and reassess
- **Caregiver/social work referral:** identify support **before** any future surgical date
- **Interim management:** abdominal binder, patient education on incarceration warning signs, explicit return precautions

Step 4 — Recommendation Summary

- **Expected benefit:** Symptom relief and prevention of future incarceration risk (currently low with a reducible hernia)
- **Main geriatric risks** (red flags identified): **Severe malnutrition**; frailty; elevated fall/TUG risk; unintentional weight loss; borderline cognition; chronic benzodiazepine and corticosteroid use; no identified caregiver
- **Modifiable items, owner, and result of optimization trial:** Nutrition → dietitian, recheck at 6 weeks; benzodiazepine taper → PCP, monitor for withdrawal, reassess at 6 to 8 weeks; corticosteroid → coordinate with prescriber; mood treatment → PCP, reassess PHQ-9 at follow-up; caregiver identification → social work, in progress
- **Unmodifiable red flags favoring conservative care:** Pending → corticosteroid tapering feasibility and cognitive workup results will **determine whether risk becomes modifiable**
- **Patient goals:** Avoid hospitalization and preserve ability to stay at home
- **Recommendation:** Defer and reassess because modifiable risk currently makes recovery unsafe or unlikely
- **Follow-up date:** 6 to 8 weeks, with **repeat MNA, weight, FRAIL, TUG, and Mini-Cog**; re-review of medication taper progress

Example 4: DO NOT RECOMMEND (Default to Conservative Care)

Patient: 88-year-old woman, being evaluated for **TAVR**, with **severe dementia** and **dependence in multiple ADLs**

Step 1 — Comprehensive Geriatric Assessment

DOMAIN	FINDINGS
Function and mobility	Katz ADL: dependent in 4 of 6 activities (bathing, dressing, toileting, transferring); Lawton-Brody IADL: dependent in all ; wheelchair-dependent; TUG not obtainable (unable to ambulate safely)
Cognition and mood	Known diagnosis of moderate-to-severe dementia ; Mini-Cog not administered given known diagnosis; no active delirium at assessment
Frailty and nutrition	Clinical Frailty Scale 7 (severely frail); MNA 9 (at risk); modest recent weight loss
Medications and support	11 medications ; lives in assisted living with 24-hour supervision; daughter is healthcare surrogate; goals-of-care conversation has not previously occurred

ABBREVIATIONS: Katz ADL = Katz Index of Independence in Activities of Daily Living; Lawton-Brody IADL = Lawton-Brody Instrumental Activities of Daily Living; TUG = Timed Up and Go; Mini-Cog = Mini-Cog Assessment; MoCA = Montreal Cognitive Assessment; GDS-15 = 15-item Geriatric Depression Scale; PHQ-9 = Patient Health Questionnaire-9; FRAIL = Fatigue, Resistance, Ambulation, Illnesses, and Loss of weight; MNA = Mini Nutritional Assessment

Step 2 — Map Findings to Outcomes

Preclusive findings per guide criteria: severe baseline dementia and dependence in ≥ 3 ADLs are explicitly identified as findings that **argue against proceeding with TAVR**, since procedural success in this population **does not reliably translate into improved quality of life or functional survival**, and carries high risk of post-procedure delirium and accelerated functional decline. **These findings are not readily modifiable.**

Step 3 — Optimization and Orders

- **No prehabilitation or deprescribing trial** is expected to meaningfully change the dementia severity or ADL dependence driving this recommendation
- **Medical management optimization:** review and optimize diuretics and beta-blockade with cardiology
- **Goals-of-care and palliative care consultation:** recommended to align treatment intensity with the patient's and family's priorities
- **Reassessment trigger:** none anticipated to change the underlying picture, though the family should be told the recommendation **would be revisited** if functional or cognitive status meaningfully improved

Step 4 — Recommendation Summary

- **Expected benefit:** Uncertain functional or quality-of-life benefit given severe dementia and multi-domain ADL dependence

- **Main geriatric risks (red flags identified):** Severe dementia; dependence in ≥ 3 ADLs; severe frailty (CFS 7); non-ambulatory status
- **Modifiable items, owner, and result of optimization trial:** Medical heart failure management — cardiology, ongoing; not expected to alter overall recommendation
- **Unmodifiable red flags favoring conservative care:** Severe dementia and multi-domain ADL dependence, per guide-defined precluding findings for TAVR
- **Patient goals:** To be clarified with family; presumed comfort and quality time based on prior conversations, **pending formal goals-of-care discussion**
- **Recommendation: Do not recommend the elective procedure** because expected burden exceeds likely patient-centered benefit
- **Follow-up date: Goals-of-care/palliative care consultation within 2 to 4 weeks;** reassess only if there is a substantial, sustained change in functional or cognitive status

TEN TAKEAWAYS FOR PCPS

1 Make conservative care the default

Use the elective window for reversible-condition management, deprescribing, nutrition, exercise, and prehabilitation before planning an operation.

2 Confirm the procedure is still needed

Clarify the patient-centered outcome, symptom burden, functional goal, and conservative or less burdensome alternatives before pursuing elective surgery.

3 Assess what the patient can actually recover from

Use CGA to evaluate function, mobility, cognition, frailty, nutrition, medications, comorbidities, and social support rather than relying on age or diagnosis alone.

4 Treat red flags before clearing

Link each finding to a targeted intervention, owner, monitoring interval, and reassessment rather than documenting risk without reducing it.

5 Use prehabilitation to change the trajectory

Build reserve through exercise, nutritional repletion, disease optimization, medication management, smoking cessation, and psychological support; improvement may defer or eliminate the need for surgery.

6 Set a high bar for elective procedures

Proceed only when conservative care has been given a fair trial and the expected patient-centered benefit clearly justifies operative and recovery burdens.

7 Measure the cost of recovery, not just the operation

Discuss delirium, mobility loss, rehabilitation duration, caregiver burden, discharge destination, and the likelihood of returning to baseline.

8 Make function and independence explicit outcomes

Prioritize interventions that preserve mobility, cognition, nutrition, independence, and sustainable living at home rather than technical procedural success alone.

9 Reassess before the decision becomes irreversible

If function, cognition, nutrition, medication safety, symptoms, or prognosis changes, reconsider whether to proceed, continue optimization, defer, or pursue definitive conservative management.

10 Close the loop with a clear recommendation

Communicate the CGA findings, patient goals, unresolved risks, optimization plan, and decision to the procedural team; when unmodifiable risks outweigh expected benefit, document conservative care as the recommendation rather than defaulting to surgery.

AAVBC SUMMARY AND CONCLUSION

For the older adult facing an elective procedure, **CGA is a protective clinical gate**. Its purpose is to identify whether the proposed intervention offers enough meaningful benefit to justify the physiologic, functional, cognitive, and recovery burden it may impose.^{1,3}

The PCP is central to this decision because procedural planning must be informed by the **patient's longitudinal baseline, competing conditions, medications, home environment, caregiver capacity, and priorities.**^{2,3} The specialist contributes procedure-specific expertise, but the decision to clear an elective intervention should incorporate **whether the patient has sufficient reserve** not only to undergo the procedure but **to recover from it.**^{10,139}

Value-based preoperative care therefore begins before the operating room. Give **conservative management** and **reversible risk factors** a genuine trial. When surgery remains appropriate, use the **elective window to build reserve** and **define the recovery plan.** Proceed when expected patient-centered benefit clearly justifies the burden. **Defer when optimization may change the balance.** When the likely recovery burden threatens irreversible loss of function or independence without sufficient expected benefit, **a conservative pathway is a valid clinical outcome.**^{2,10}

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