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SAMBA 2024 Annual Meeting
May 2-4, 2024

Patient Selection: BMI and OSA

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Objectives

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- Discuss current evidence related to patient selection for adult outpatient surgery
- Create customized patient selection criteria for BMI and OSA
- Create decision algorithms for high risk patients

- No conflicts to report

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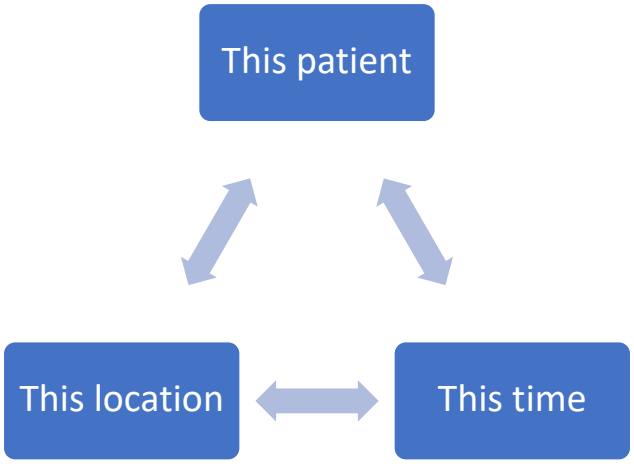
Why patient selection



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BMI classification

- Severely underweight - BMI less than 16.5kg/m^2
- Underweight - BMI under 18.5 kg/m^2
- Normal weight - BMI greater than or equal to 18.5 to 24.9 kg/m^2
- Overweight – BMI greater than or equal to 25 to 29.9 kg/m^2
- Obesity – BMI greater than or equal to 30 kg/m^2
  - Obesity class I – BMI 30 to 34.9 kg/m^2
  - Obesity class II – BMI 35 to 39.9 kg/m^2
  - Obesity class III – BMI greater than or equal to 40 kg/m^2 (also referred to as severe, extreme, or massive obesity)

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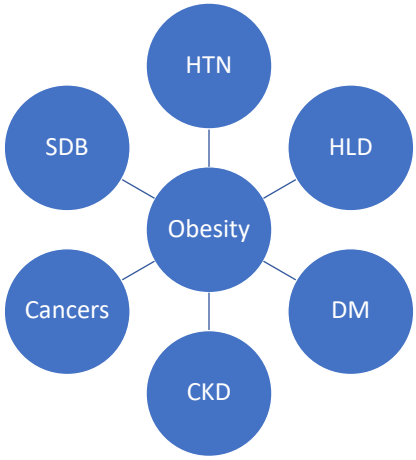
Comorbidities associated with increased BMI



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Body-mass index and risk of obesity-related complex multimorbidity: an observational multicohort study

Prof Mika Kivimäki, FMedSci, Prof Timo Strandberg, MD, Jaana Pentti, MSc, Solja T Nyberg, PhD, Philipp Frank, MSc, Prof Markus Jokela, PhD, Jenni Ervasti, PhD, Prof Sakari B Suominen, DrMedSci, Prof Jussi Vahtera, MD, Pyry N Sipilä, MD, Joni V Lindbohm, MD, Jane E Ferrie, PhD

The Lancet Diabetes & Endocrinology
Volume 10 Issue 4 Pages 253-263 (April 2022)
DOI: 10.1016/S2213-8587(22)00033-X

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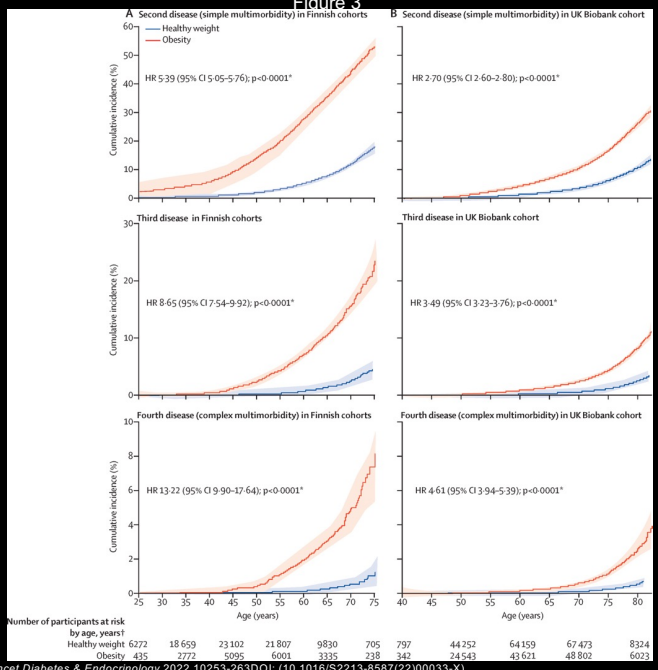
Figure 3



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BMI: Current evidence

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- Class 1 and 2 obesity are generally OK
- Class 3 and above require screening

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To assess if super morbid obese patients are at increased odds for postoperative complications after outpatient surgery when compared to morbid obese patients.

7160 with a BMI ≥50 kg/m2 were successfully matched to 7160 with a BMI <50 and ≥40 kg/m2.

Super morbid obesity is not associated with higher rates of early postoperative complications when compared to morbid obese patients. Specifically, early pulmonary complications were very low after outpatient surgery. Super morbid obese patients should not be excluded from outpatient procedures based on a BMI cutoff alone.

Hajmohamed S, Patel D, Apruzzese P, Kendall MC, De Oliveira G. Early Postoperative Outcomes of Super Morbid Obese Compared to Morbid Obese Patients After Ambulatory Surgery Under General Anesthesia: A Propensity-Matched Analysis of a National Database. *Anesth Analg*. 2021;133(6):1366-1373.

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The objective of this study was to evaluate the association of Class 3 obesity versus a composite cohort of Class 1 and 2 obesity with same-day hospital admission following outpatient tonsillectomy in adults.

BMI	Relative risk of same day readmission
≥40 kg/m2 and < 50 kg/m2	1.31 (99% CI 1.03–1.65, p = 0.03)
≥50 kg/m2 and < 60 kg/m2	1.99 (99% CI 1.43–2.78, p = 0.002)
≥ 60 kg/m2	1.80 (99% CI 1.00–3.25, p = 0.07)

Gabriel RA, Burton BN, Du AL, Waterman RS, Macias A. Should there be a body mass index eligibility cutoff for elective airway cases in an ambulatory surgery center? A retrospective analysis of adult patients undergoing outpatient tonsillectomy. J Clin Anesth. 2021 Sep;72:110306.

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To investigate the "cutoff" value of BMI associated with increased likelihood of hospital readmissions within the first 24 hours of surgery in patients undergoing ambulatory hernia repair.

Data from the 2012-2016 ACS-NSQIP.

Of 214,125 ambulatory hernia repair cases 908 patients (0.42%) had an unexpected hospital admission within the first 24 hours after surgery.

No statistically significant association between BMI and hospital readmissions

Some of the reasons for readmission significantly differed by BMI category.

Rosero EB, Joshi GP. Finding the body mass index cutoff for hospital readmission after ambulatory hernia surgery. Acta Anaesthesiol Scand. 2020 Oct;64(9):1270-1277. doi: 10.1111/aas.13660.

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Retrospective cohort study examining the association of body mass index (BMI) with hospital admission, same-day complications, and 30-day hospital readmission following day-case eligible joint arthroscopy.

Total of 99,410 patients included in the final analysis, with a 2.6% rate of hospital admission.
Only those with BMI ≥50 kg/m2(OR 1.55, 95% CI 1.18-2.01, p = 0.005) had increased odds of hospital admission.

BMI ≥50 kg/m2 may be used as a sole factor for patient selection in patients undergoing joint arthroscopy.
For patients with BMI <50 kg/m2, BMI alone should not be solely used to exclude patients from having joint arthroscopies performed in an outpatient setting

Gabriel RA, Burton BN, Ingrande J, Joshi GP, Waterman RS, Spurr KR, Urman RD. The association of body mass index with same-day hospital admission, postoperative complications, and 30-day readmission following day-case eligible joint arthroscopy: A national registry analysis. J Clin Anesth. 2020 Feb;59:26-31.

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To evaluate the association of obesity with need for hospital admission and day of surgery postoperative complications after outpatient laparoscopic cholecystectomy.

ACS NSQIP database from 2007 to 2016 was used

Patients with a BMI ≥ 50 kg/m2 had a 10% increased odds of hospital admission (OR 1.10, CI 1.02-1.19, p < 0.001). BMI ≥ 40 kg/m2 and < 50 kg/m2 was not associated with increased odds of hospital admission (OR 0.99, CI 0.95-1.03, p 0.725).

Patients with BMI > 50 kg/m2 should be considered on a case-by-case basis.

Reeves JJ, Burton BN, Broderick RC, Waterman RS, Gabriel RA. Obesity and unanticipated hospital admission following outpatient laparoscopic cholecystectomy. Surg Endosc. 2021 Mar;35(3):1348-1354.

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Low BMI

- Independent predictor of poor outcomes
- Malnutrition
- Sarcopenia
- Frailty

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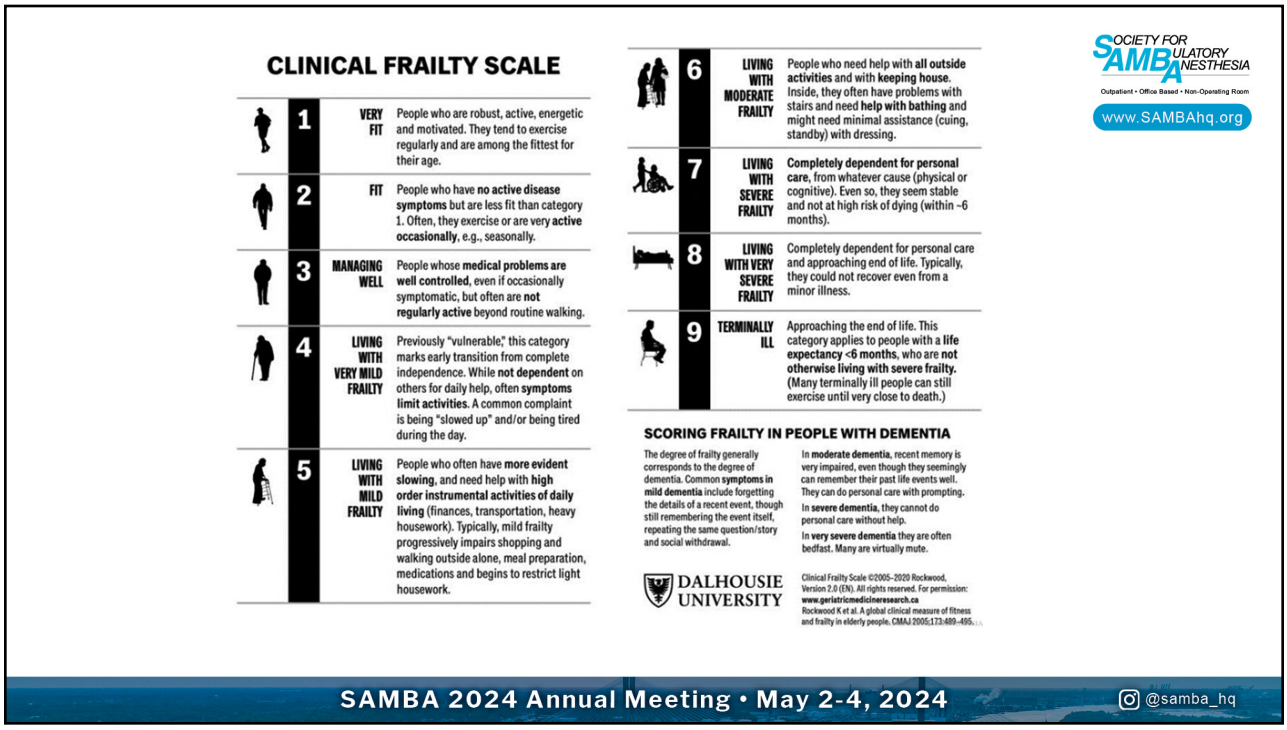
CLINICAL FRAILTY SCALE
1 VERY FIT
People who are robust, active, energetic and motivated. They tend to exercise regularly and are among the fittest for their age.
2 FIT
People who have no active disease symptoms but are less fit than category 1. Often, they exercise or are very active occasionally, e.g., seasonally.
3 MANAGING WELL
People whose medical problems are well controlled, even if occasionally symptomatic, but often are not regularly active beyond routine walking.
4 LIVING WITH VERY MILD FRAILTY
Previously "vulnerable," this category marks early transition from complete independence. While not dependent on others for daily help, often symptoms limit activities. A common complaint is being "slowed up" and/or being tired during the day.
5 LIVING WITH MILD FRAILTY
People who often have more evident slowing, and need help with high order instrumental activities of daily living (finances, transportation, heavy housework). Typically, mild frailty progressively impairs shopping and walking outside alone, meal preparation, medications and begins to restrict light housework.
6 LIVING WITH MODERATE FRAILTY
People who need help with all outside activities and with keeping house. Inside, they often have problems with stairs and need help with bathing and might need minimal assistance (cuing, standby) with dressing.
7 LIVING WITH SEVERE FRAILTY
Completely dependent for personal care, from whatever cause (physical or cognitive). Even so, they seem stable and not at high risk of dying (within ~6 months).
8 LIVING WITH VERY SEVERE FRAILTY
Completely dependent for personal care and approaching end of life. Typically, they could not recover even from a minor illness.
9 TERMINALLY ILL
Approaching the end of life. This category applies to people with a life expectancy <6 months, who are not otherwise living with severe frailty. (Many terminally ill people can still exercise until very close to death.)
SCORING FRAILTY IN PEOPLE WITH DEMENTIA
The degree of frailty generally corresponds to the degree of dementia. Common symptoms in mild dementia include forgetting the details of a recent event, though still remembering the event itself, repeating the same question/story and social withdrawal.
In moderate dementia, recent memory is very impaired, even though they seemingly can remember their past life events well. They can do personal care with prompting.
In severe dementia, they cannot do personal care without help.
In very severe dementia they are often bedfast. Many are virtually mute.
DALHOUSIE UNIVERSITY
Clinical Frailty Scale ©2005–2020 Rockwood, Version 2.0 (EN). All rights reserved. For permission: www.geriatricmedicineresearch.ca
Rockwood K et al. A global clinical measure of fitness and frailty in elderly people. CMAJ 2005;173:489–495.
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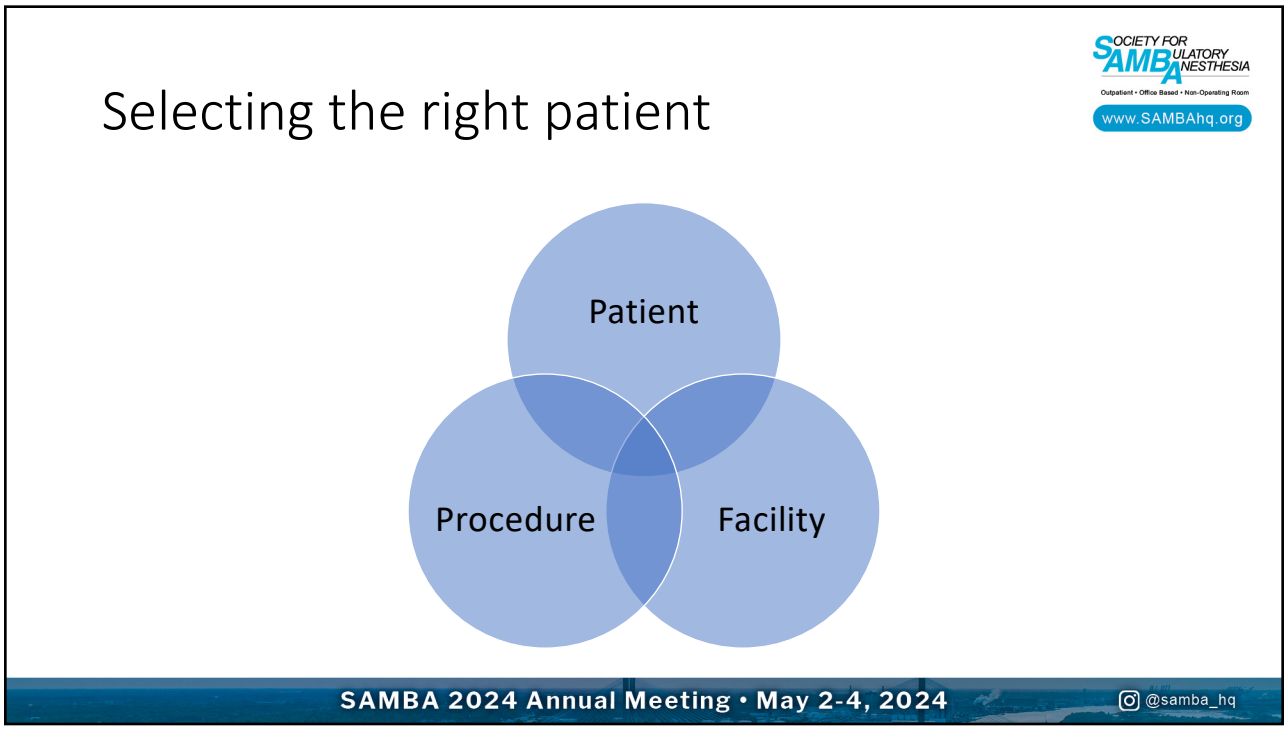
Selecting the right patient
Patient
Procedure
Facility
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OSA

- Most common type of sleep-disordered breathing
- 13% of men and 6% of women between the ages of 30 and 70 years have moderate to severe sleep-disordered breathing.
- Strongly associated with obesity
- Inconsistently associated with adverse perioperative outcomes
- Undiagnosed OSA is common
- Most patients are not compliant with PAP therapy

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OSA

- SAMBA and SASM recommend screening patients for OSA
- Snoring, Tiredness, Observed apnea, blood Pressure, Body mass index, Age, Neck circumference and Gender questionnaire is the most validated and studied in the surgical populations
- Score of 5 or greater: presumptive diagnosis of OSA

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OSA

- Screen for obstructive sleep apnea
- Optimize comorbidities
- Preoperative sleep study is not required
- Encourage positive airway pressure use in compliant patients
- Pain control with multimodal nonopioid analgesia

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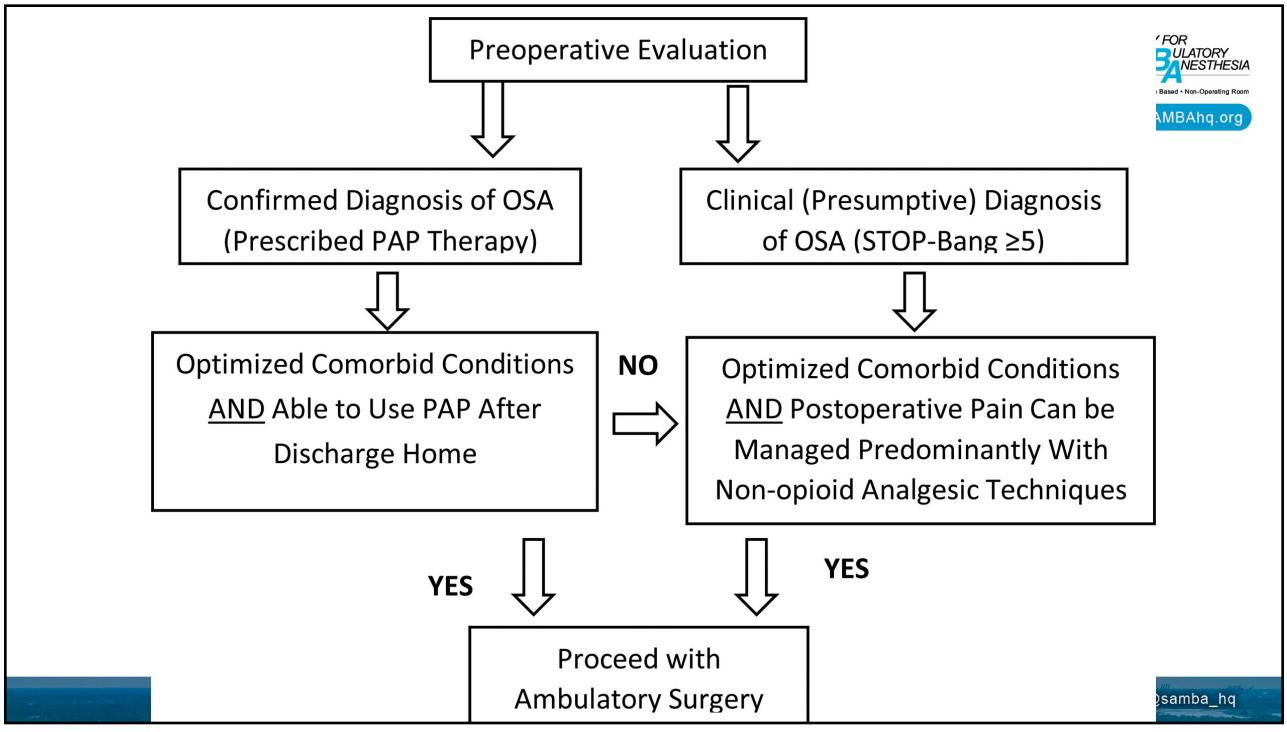

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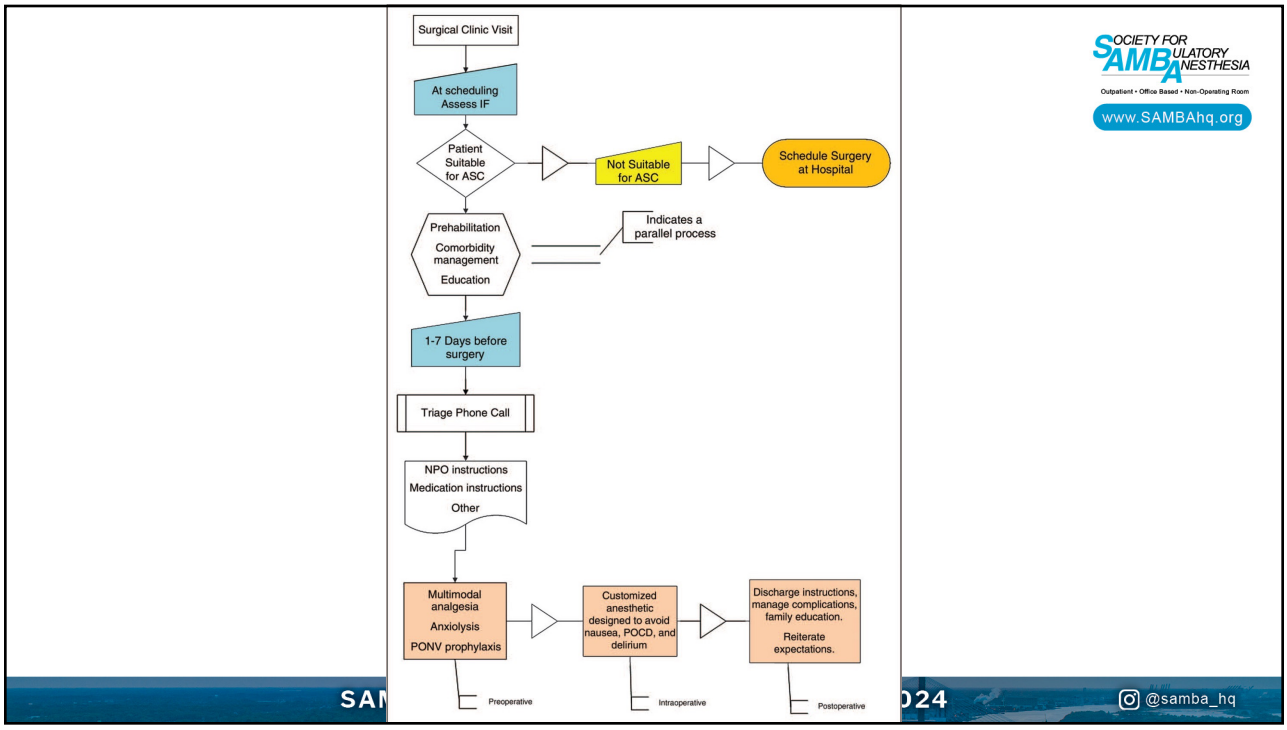
Surgical Clinic Visit
At scheduling Assess IF
Patient Suitable for ASC
Not Suitable for ASC
Schedule Surgery at Hospital
Prehabilitation
Comorbidity management
Education
Indicates a parallel process
1-7 Days before surgery
Triage Phone Call
NPO instructions
Medication instructions
Other
Multimodal analgesia
Anxiolysis
PONV prophylaxis
Customized anesthetic designed to avoid nausea, POCD, and delirium
Discharge instructions, manage complications, family education.
Reiterate expectations.
Preoperative
Intraoperative
Postoperative
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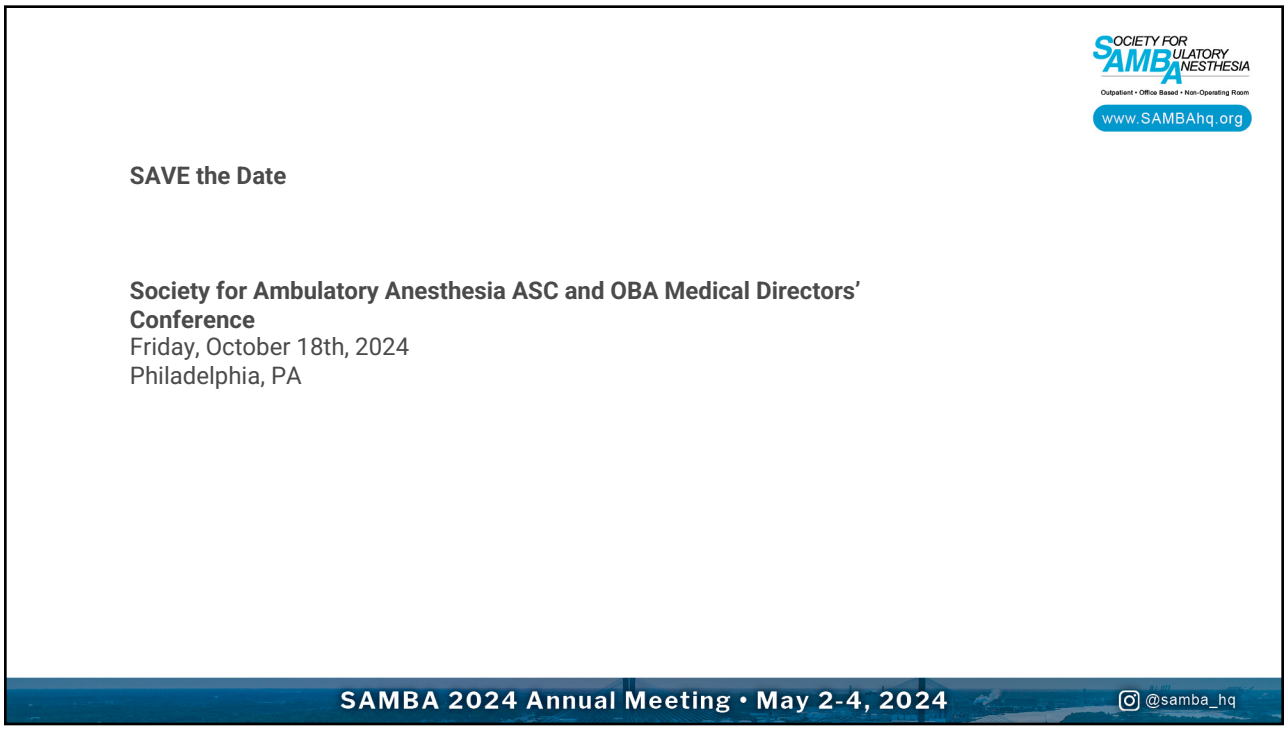
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Society for Ambulatory Anesthesia ASC and OBA Medical Directors' Conference
Friday, October 18th, 2024
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