**Review of Preoperative Evaluation:**

[Preoperative Evaluation in the 21st Century.](https://nam02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fpubmed.ncbi.nlm.nih.gov%2F37279103%2F&data=05%7C01%7Cjwolpaw%40jhmi.edu%7C27409a43ede347801ca408dbc3760cef%7C9fa4f438b1e6473b803f86f8aedf0dec%7C0%7C0%7C638318684069851272%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=vj33TlLj9BABpls72znJLu%2FJPW94uPZS3B0YoU6xBc0%3D&reserved=0) Blitz JD.Anesthesiology. 2023 Jul 1;139(1):91-103. PMID: 37279103

**Preoperative assessment of cardiac function before non-cardiac surgery:**

* METS trial: Wijeysundera DN, Pearse RM, Shulman MA, Abbott TEF, Torres E, Ambosta A, Croal BL, Granton JT, Thorpe KE, Grocott MPW, Farrington C, Myles PS, Cuthbertson BH, investigators Ms. Assessment of functional capacity before major non-cardiac surgery: an international, prospective cohort study. *Lancet.*2018;391(10140):2631-2640. PMID: 30070222
* DASI Thresholds: Integration of the Duke Activity Status Index into preoperative risk evaluation: a multicentre prospective cohort study. *Br J Anaesth.*2020;124(3):261-270 PMID: 31864719
* Original DASI paper: Hlatky MA, Boineau RE, Higginbotham MB, Lee KL, Mark DB, Califf RM, Cobb FR, Pryor DB. A brief self-administered questionnaire to determine functional capacity (the Duke Activity Status Index). *Am J Cardiol.*1989;64(10):651-654 PMID: 2782256
* MET- repair: Jaeger C, Burkard T, Kamber F, Seeberger E, Bolliger D, Pfister O, Buse GL, Mauermann E. Quantification of metabolic equivalents (METs) by the MET-REPAIR questionnaire: A validation study in patients with a high cardiovascular burden. *J Clin Anesth.*2022;76:110559 PMID: 34687977

**Are some biomarkers better than others?  Trops vs Pro-BNP?**

* Canadian guidelines: Duceppe E, Parlow J, MacDonald P, Lyons K, McMullen M, Srinathan S, Graham M, Tandon V, Styles K, Bessissow A, Sessler DI, Bryson G, Devereaux PJ. Canadian Cardiovascular Society Guidelines on Perioperative Cardiac Risk Assessment and Management for Patients Who Undergo Noncardiac Surgery. *Can J Cardiol.*2017;33(1):17-32 PMID: 27865641
* The prognostic value of pre-operative and post-operative B-type natriuretic peptides in patients undergoing noncardiac surgery: B-type natriuretic peptide and N-terminal fragment of pro-B-type natriuretic peptide: a systematic review and individual patient data meta-analysis. *J Am Coll Cardiol.*2014;63(2):170-180 PMID: 24076282

**What do we do with patients who have asymptomatic elevations in biomarkers preoperatively?**

* Guidelines on cardiovascular assessment and management of patients undergoing non-cardiac surgery. *Eur Heart J.*2022;43(39):3826-3924 PMID: 36017553

**How do we assess risk?  RCRI?  Something better?**

* Glance LG, Faden E, Dutton RP, Lustik SJ, Li Y, Eaton MP, Dick AW. Impact of the Choice of Risk Model for Identifying Low-risk Patients Using the 2014 American College of Cardiology/American Heart Association Perioperative Guidelines. *Anesthesiology.*2018;129(5):889-900 PMID: 30001221
* Predicting Myocardial Injury and Other Cardiac Complications After Elective Noncardiac Surgery with the Revised Cardiac Risk Index: The VISION Study. *Can J Cardiol.*2021;37(8):1215-1224 PMID: 33766613

**Does the level of risk of the surgery matter?  What is high risk? Medium? Low?**

* Bilimoria KY, Liu Y, Paruch JL, Zhou L, Kmiecik TE, Ko CY, Cohen ME. Development and evaluation of the universal ACS NSQIP surgical risk calculator: a decision aid and informed consent tool for patients and surgeons. *J Am Coll Surg.*2013;217(5):833-842 e831-833 PMID: 24055383

**How can we optimize patients preoperatively?  Let’s start with functional capacity, anything we can do to improve that?**

* Carli F. Prehabilitation for the Anesthesiologist. *Anesthesiology.*2020;133(3):645-652.PMID: 32358253

**Should we be assessing and trying to improve nutritional status?  How?**

* Wischmeyer PE, Carli F, Evans DC, Guilbert S, Kozar R, Pryor A, Thiele RH, Everett S, Grocott M, Gan TJ, Shaw AD, Thacker JKM, Miller TE, Hedrick TL, McEvoy MD, Mythen MG, Bergamaschi R, Gupta R, Holubar SD, Senagore AJ, Abola RE, Bennett-Guerrero E, Kent ML, Feldman LS, Fiore JF, Jr., Perioperative Quality Initiative W. American Society for Enhanced Recovery and Perioperative Quality Initiative Joint Consensus Statement on Nutrition Screening and Therapy Within a Surgical Enhanced Recovery Pathway. *Anesth Analg.*2018;126(6):1883-1895 PMID: 29369092

**Should we be correcting anemia?  How?**

* Warner MA, Shore-Lesserson L, Shander A, Patel SY, Perelman SI, Guinn NR. Perioperative Anemia: Prevention, Diagnosis, and Management Throughout the Spectrum of Perioperative Care. *Anesth Analg.*2020;130(5):1364-1380 PMID: 32167979

**Should we be assessing frailty?  How?  If a patient is frail, what do we do about it?**

* McIsaac DI, MacDonald DB, Aucoin SD. Frailty for Perioperative Clinicians: A Narrative Review. *Anesth Analg.*2020;130(6):1450-1460 PMID: 32384334
* Aucoin SD, Hao M, Sohi R, Shaw J, Bentov I, Walker D, McIsaac DI. Accuracy and Feasibility of Clinically Applied Frailty Instruments before Surgery: A Systematic Review and Meta-analysis. *Anesthesiology.*2020;133(1):78-95 PMID: 32243326
* [Recommendations for Preoperative Management of Frailty from the Society for Perioperative Assessment and Quality Improvement (](https://nam02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fpubmed.ncbi.nlm.nih.gov%2F29550619%2F&data=05%7C01%7Cjwolpaw%40jhmi.edu%7C27409a43ede347801ca408dbc3760cef%7C9fa4f438b1e6473b803f86f8aedf0dec%7C0%7C0%7C638318684069851272%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=DbMWgpH7S7Dj%2BeJdnBGNvezI44mCHojI71usCgrVW1s%3D&reserved=0" \o "https://nam02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fpubmed.ncbi.nlm.nih.gov%2F29550619%2F&data=05%7C01%7Cjwolpaw%40jhmi.edu%7C27409a43ede347801ca408dbc3760cef%7C9fa4f438b1e6473b803f86f8aedf0dec%7C0%7C0%7C638318684069851272%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=DbMWgpH7S7Dj%2BeJdnBGNvezI44mCHojI71usCgrVW1s%3D&reserved=0)**[SPAQI](https://nam02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fpubmed.ncbi.nlm.nih.gov%2F29550619%2F&data=05%7C01%7Cjwolpaw%40jhmi.edu%7C27409a43ede347801ca408dbc3760cef%7C9fa4f438b1e6473b803f86f8aedf0dec%7C0%7C0%7C638318684069851272%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=DbMWgpH7S7Dj%2BeJdnBGNvezI44mCHojI71usCgrVW1s%3D&reserved=0" \o "https://nam02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fpubmed.ncbi.nlm.nih.gov%2F29550619%2F&data=05%7C01%7Cjwolpaw%40jhmi.edu%7C27409a43ede347801ca408dbc3760cef%7C9fa4f438b1e6473b803f86f8aedf0dec%7C0%7C0%7C638318684069851272%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=DbMWgpH7S7Dj%2BeJdnBGNvezI44mCHojI71usCgrVW1s%3D&reserved=0)**[).](https://nam02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fpubmed.ncbi.nlm.nih.gov%2F29550619%2F&data=05%7C01%7Cjwolpaw%40jhmi.edu%7C27409a43ede347801ca408dbc3760cef%7C9fa4f438b1e6473b803f86f8aedf0dec%7C0%7C0%7C638318684069851272%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=DbMWgpH7S7Dj%2BeJdnBGNvezI44mCHojI71usCgrVW1s%3D&reserved=0" \o "https://nam02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fpubmed.ncbi.nlm.nih.gov%2F29550619%2F&data=05%7C01%7Cjwolpaw%40jhmi.edu%7C27409a43ede347801ca408dbc3760cef%7C9fa4f438b1e6473b803f86f8aedf0dec%7C0%7C0%7C638318684069851272%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=DbMWgpH7S7Dj%2BeJdnBGNvezI44mCHojI71usCgrVW1s%3D&reserved=0) Alvarez-Nebreda ML, Bentov N, Urman RD, Setia S, Huang JC, Pfeifer K, Bennett K, Ong TD, Richman D, Gollapudi D, Alec Rooke G, Javedan H.J Clin Anesth. 2018 Jun;47:33-42. PMID: 29550619
* [Association of Integrated Care Coordination With Postsurgical Outcomes in High-Risk Older Adults: The Perioperative Optimization of Senior Health (](https://nam02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fpubmed.ncbi.nlm.nih.gov%2F29299599%2F&data=05%7C01%7Cjwolpaw%40jhmi.edu%7C27409a43ede347801ca408dbc3760cef%7C9fa4f438b1e6473b803f86f8aedf0dec%7C0%7C0%7C638318684069851272%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=W0cJ4wpgTJGrWGoV319vsY2j9Z5dX2793fQcLVdijoI%3D&reserved=0" \o "https://nam02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fpubmed.ncbi.nlm.nih.gov%2F29299599%2F&data=05%7C01%7Cjwolpaw%40jhmi.edu%7C27409a43ede347801ca408dbc3760cef%7C9fa4f438b1e6473b803f86f8aedf0dec%7C0%7C0%7C638318684069851272%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=W0cJ4wpgTJGrWGoV319vsY2j9Z5dX2793fQcLVdijoI%3D&reserved=0)**[POSH](https://nam02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fpubmed.ncbi.nlm.nih.gov%2F29299599%2F&data=05%7C01%7Cjwolpaw%40jhmi.edu%7C27409a43ede347801ca408dbc3760cef%7C9fa4f438b1e6473b803f86f8aedf0dec%7C0%7C0%7C638318684069851272%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=W0cJ4wpgTJGrWGoV319vsY2j9Z5dX2793fQcLVdijoI%3D&reserved=0" \o "https://nam02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fpubmed.ncbi.nlm.nih.gov%2F29299599%2F&data=05%7C01%7Cjwolpaw%40jhmi.edu%7C27409a43ede347801ca408dbc3760cef%7C9fa4f438b1e6473b803f86f8aedf0dec%7C0%7C0%7C638318684069851272%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=W0cJ4wpgTJGrWGoV319vsY2j9Z5dX2793fQcLVdijoI%3D&reserved=0)**[) Initiative.](https://nam02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fpubmed.ncbi.nlm.nih.gov%2F29299599%2F&data=05%7C01%7Cjwolpaw%40jhmi.edu%7C27409a43ede347801ca408dbc3760cef%7C9fa4f438b1e6473b803f86f8aedf0dec%7C0%7C0%7C638318684069851272%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=W0cJ4wpgTJGrWGoV319vsY2j9Z5dX2793fQcLVdijoI%3D&reserved=0" \o "https://nam02.safelinks.protection.outlook.com/?url=https%3A%2F%2Fpubmed.ncbi.nlm.nih.gov%2F29299599%2F&data=05%7C01%7Cjwolpaw%40jhmi.edu%7C27409a43ede347801ca408dbc3760cef%7C9fa4f438b1e6473b803f86f8aedf0dec%7C0%7C0%7C638318684069851272%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=W0cJ4wpgTJGrWGoV319vsY2j9Z5dX2793fQcLVdijoI%3D&reserved=0) McDonald SR, Heflin MT, Whitson HE, Dalton TO, Lidsky ME, Liu P, Poer CM, Sloane R, Thacker JK, White HK, Yanamadala M, Lagoo-Deenadayalan SA.JAMA Surg. 2018 May 1;153(5):454-462. PMID: 29299599