Bree Collaborative | Surgical Patient Optimization Tuesday May 6th, 2025 | 7-8:30AM Hybrid

MEMBERS PRESENT VIRTUALLY

Carl Olden, MD, Central Washington Family	Janice Tufte,
Medicine	Nawar, Alkharnesi
Vickie Kolios, CHPQ, SCOAP	Andrea Allen
Nick Kassebaum, MD, SCOAP	Carl Olden
Nawar Alkhamesi, MD, PhD, MBA, FRCS (GEN.	Edie Shen
SURG.), FRCS, FRCSEd, FRCSC, FACS, FASCRS	Evan Delinger
Evan P. (Patch) Dellinger, MD	Irl Hirsch, MD
Andrea Allen, RN, Washington HCA	Rosemary Grant
Rosemary Grant, RN, BSN, CHPQ, CPPS,	Robert Rush, MD, Peacehealth
Washington State Hospital Association	Edwardo Smith Singares
Thien Nguyen, MD, Overlake	Tiffany Leiva
Tiffany Leiva, RN, Proliance	Vickie Kolios-Morris
Edie Shen, MD, UW Medicine	
Cristina Stafie, MD, Kaiser Permanente	
Scott Helton, MD, Virginia Mason	
Eduardo Smith-Singares, MD, Kadlec Medical	
Center	
STAFF AND MEMBERS OF THE PUBLIC	
Beth Bojkov, MPH, RN, Bree Collaborative	

Karie Nicholas, MA, GDip, Bree Collaborative

WELCOME

Carl Olden, MD, workgroup chair, welcomed everyone to the Bree Collaborative Surgical Patient Optimization May Workgroup. Carl noted a correction to the insulin gtt measurement then asked for a motion to approve the minutes.

Action: April minutes unanimously approved

WHAT CLINCIANS SHOULD UNDERSTAND ABOUT HGA1C

Beth then introduced Dr. Irl Hirsch from UW Medicine who provided an in depth presentation regarding limitations and considerations for hemoglobin A1c as a biomarker.

What CGM Taught Us in 2008: Average Glucose Versus A1C

A1C (%)	AG (mg/dL [95% CI])
5	97 (76-120)
6	126 (100-152)
7	154 (123-185)
8	183 (147-217)
9	212 (170-249)
10	249 (192-282)
11	269 (217-314)
12	298 (240-347)

Nathan DM, Kuenen J, Borg R, Zheng H, Schoenfeld D, Heine RJ. *Diabetes Care*. 2008;31:1473-1478.

- Can't compare A1c between two people, each A1c comprises a wide range of mean glucose.
- There are many etiologies of HbA1c Discordance with blood glucose

- Ethnicity, race and age have an impact on concordance of HbA1c with blood glucose
- Red blood cell survival also impact HbA1c lifespan varies between individuals
 - Short RBC lifespan means lab HbA1c can underestimate glucose exposure, and long RBC lifespan means lab HbA1c can overestimate glucose exposure
- HbA1c can be off by several percentage points based on RBC lifespan
- Discordance between CGM and lab tested HbA1c, studies done at UW show <0.1% difference only in 11% of cases
- HbA1c is not as good of a biomarker as in the 1980s

Questions

- Are there other studies that look at better indicators of race/ethnicity, not very sensitive, are the more studies that use better indicators?
 - Grant to study this was cancelled recently, we think genetically there are differences in RBC lifespan, but it's a big question right now
- It seems like we might be leaning towards advocating for CGM for everyone preoperatively, is that the case?
 - Accurate GMI you need 14 days, but just need to do this once to know if its discordant or not
 - As a group, we need to decide what to do as many people are not going to have CGM coverage
- Fructosamine as an alternative?
 - Has more problems than CGMs
 - Another glycated protein
- Preop clinic we use HbA1c to identify people at higher risk and to watch their blood sugars over time to see that it's optimized is this a good solution?
 - Would be another potential solution to this workgroup goals
- If thoughts are to go ahead and utilize CGMs, what would we use if we are not using HbA1c?
 - HTCC recently reviewed CGMs and the draft proposal impacts 2.5 million Washingtonians
 - We should be using CGM as a primary way to look at this, HbA1c is a secondary way, and is better than nothing
 - We don't have any studies looking at GMI compared to surgical outcomes
- Wanted to emphasize extensive literature showing A1c does not affect surgical outcomes if you control blood sugar
 - Nondiabetics are still at risk for hyperglycemia in perioperative period, and higher risk than diabetics in perioperative period.
 - Misdiagnosing a lot of people because even the way we're diagnosing people with diabetes misses people
- Nick's comments
 - Rather narrow focus of this working group identify those at higher risk for intraoperative hyperglycemia, ensure they have a plan for managing their periop glucose (which could involve further investigation to find discordance/concordance between glucose and HbA1c depending on inpatient versus outpatient management)
 - Important for our recommendation to have single spot check screening test that is a trigger for further investigation
- Threshold for diabetes was based on retinopathy
 - Hyperglycemia may not have same negative impacts on all different sectors of the population

- 2 week preoperative period is more important than HbA1c to reduce surgical risk could we put something in the recommendations around monitoring people that are shown to be higher risk using either POC testing or CGM if they have it?
 - 2 weeks before the operation do not matter if you control it during and after the operation

MATRIX REVIEW AND GUIDELINES

Beth Bojkov invited the workgroup to review the draft matrix and guidelines

Discussion

- Day of surgery and two days afterwards how do we routinely and systematically check every person, treat then during surgery, and then follow up plan for people in ambulatory settings that are otherwise ready to go home
- Day of surgery glucose control how do we standardize that, can we exclude some procedures? Seems like we can't
 - The matrix was an attempt to identify those people who are highest risk, known diabetics, people who are not diabetic or people who are having higher risk of surgery
 - Day of surgery fine tune who will get screened/treated what do you do with people who have this gap in follow up care
- Could stratify surgeries by Medicare star ratings- Colon, spine, hysterectomy, joints, cardiac
- Everyone is at risk for intraoperative hyperglycemia adding any specific criteria for screening means that it permits the preoperative team to not screen some individuals because they don't have those risk factors everyone should be monitored.
- Is endoscopy surgery for the purposes of the work that we're doing?
 - Depends on nature screening upper endoscopy, but some tumors are being removed under endoscopy, extensive procedures, those would count as surgery in this
 - Anything that requires incision of mucosal tract or skin, anything beyond a biopsy
 - Should clarify that in the recommendations
- We know that all patients are at risk of getting periop hyperglycemia, unless you're getting a smaller procedure or endoscopy, we should not include that in our testing
 - Postop infection are relatively rare in endoscopy and biopsy so everyone else gets a blood glucose
- Postoperative planning
 - Then what happens after someone gets insulin in their procedure for hyperglycemia that piece has to be part of the plan
 - However, there are so many people that are at relatively low risk of hyperglycemia, e.g., 14 year old getting ACL surgery?
 - We are focusing on 18 years and older for this specific guideline
 - We are seeing explosion of type 2 diabetes in adolescent populations
 - Burden on patient could someone go home with self-monitoring device if they're getting an ambulatory procedure? Its something to consider for burden
- What are we going to do with automated insulin delivery
 - \circ $\;$ Not part of scope of what we are doing now but a big problem
 - 0

POSTOPERATIVE PLANNING

First Scenario:

- Friday OP D and C for diagnosis of endometrial adenocarcinoma in a 65-year old woman with BMI of 45, hx hypertension but without known DM, has a pre-operative glucose of 180 and gets a single dose of short-acting insulin in OR for a 45 min start to finish procedure. BG is 165 in recovery, and she is ready to go home by noon.
- Does she need follow-up in next 2 days or can she wait until early next week? Does Anesthesia send her home on a daily dose of long-acting insulin? This is a procedure that is low risk for infection so maybe not.
 - Suggestion: Send her home with meds but diet information and scheduled follow-up with Primary Care next week.

Second scenario:

- same patient but getting OP total knee replacement, 10AM start time, recovered from anesthesia and ready to go home by 4pm, Does she get home glucose monitor, lancets, strips, control solution and insulin to take at home until she can be seen next week? Who does this, Surgeon or Anesthesia?
- This would be the perfect patient to use CGM intraoperatively and have her wear the sensor home, teach patient or family member how to set up smartphone app to sync with the sensor and capture data until seen the next week. Much less costly approach than admitting for glucose monitoring and treatment.

Discussion

- Would be helpful to send someone home with finger stick instead of CGM
- If they have someone coming into their home would be helpful to have someone testing them then, but could be something to think about? Home health?
- Admitting to hospital unless you qualify for that, going into the hospital is not a good place to get your DM under control.
- Reality of getting CGM on quickly is very difficult if not impossible lots of hoops/bureaucracy
 - Depending in insurance can get CGM right away
 - Even over the counter CGM may take a few days
- Logistically would be difficult to do, home glucose monitoring would have to picked up prior to, and pharmacy potentially could support that in the interim
 - Primary care provider would not be reimbursed for global surgery period have creative avenues to reimburse PCPs but most people have not implemented that.
- Someone not diagnosed for diabetes would insurance admit them for hyperglycemia? Probably not
- Accreditation can go down for surgeries that are not done in a timely manner, cannot keep people in the hospital when they do not have dx for diabetes, is there are barriers there
- Where are we going to get CGM/testing devices on Friday afternoon if they are going home need to get down to practicality of these recommendations
- Patient participation needs to be prioritized spend more time with patients preoperatively, let know what could happen intraoperatively
 - To have them go home with dietary restrictions during recovery might be better than figuring out how to get them to monitor their blood sugar
 - Diet is important but its such a nightmare some hospitals offer medically appropriate meals and that is the best option if they have it
 - People have to have appropriate food in their home, and going grocery shopping might be more than just picking up a CGM

- \circ $\,$ In times with such high HRSN needs, need to be conscious of the availability of food for patients right now
- Still need to figure out what to do for people postoperatively that get their BG checked day of surgery should hospitals be responsible for placing a CGM before they go home so the person following up with them has that information that could be an idea
- Multiple pathways sounds like different patients may need different source of resources, maybe one pathway is to get medically managed meals, some who can manage their glucose at home, may just need CGM
- If a patient does not have a diagnosis of diabetes shows need of insulin, that person should be seen by endocrinologist of well informed primary care doctor who can give advice on that patient
 - Unfortunate reality is 6-9 months to get to see an endocrinologist, going to get much worse
 - In hospital consultation for someone unexpectedly needed in the postoperative period.

PUBLIC COMMENT AND GOOD OF THE ORDER

Carl invited final comments or public comments, then thanked all for attending and their effort. The workgroup's next meeting will be on Tuesday, June 3rd from 7-8:30AM.