Take 3 – Practical Practice Pointers© December 23, 2019 Edition

Screening for AAA, Fasting for Health, Umbilical Hernia Management

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From the USPSTF

1) Screening for Abdominal Aortic Aneurism (AAA)

An AAA is typically defined as aortic enlargement with a diameter of 3.0 cm or larger. Most AAAs are asymptomatic until they rupture. Although the risk for rupture varies greatly by aneurysm size, the associated risk for death with rupture is as high as 80%. Important risk factors for AAA include older age, male sex, smoking, and having a first-degree relative with an AAA. Other risk factors include a history of other vascular aneurysms, CAD, CVD, atherosclerosis, hypercholesterolemia, and HTN.

The prevalence of AAA has declined over the past 2 decades among screened men ≥ 65 in multiple European countries. Population-based studies in men older than 60 have found an AAA prevalence ranging from 1-3%. The reduction in prevalence is attributed to the decrease in smoking prevalence over time. Previous prevalence rates of AAA reported in population-based screening studies ranged from 1.6% to 7.2% of the general population 60 to 65 years or older. The current prevalence of AAA in the US is unclear because of the low uptake of screening.

The USPSTF recently updated and affirmed their 2014 recommendation regarding screening for abdominal aortic aneurism (AAA). The recommendations include:

- Recommend 1-time screening for abdominal aortic aneurysm (AAA) with ultrasonography in men aged 65 to 75 years who have ever smoked **(B)**
- Recommend that clinicians selectively offer screening for AAA with ultrasonography in men aged 65 to 75 years who have never smoked rather than routinely screening all men in this group. Evidence indicates that the net benefit of screening all men in this group is small. In determining whether this service is appropriate in individual cases, patients and clinicians should consider the balance of benefits and harms on the basis of evidence relevant to the patient's medical history, family history, other risk factors, and personal values. **(C)**
- Conclude that the current evidence is insufficient to assess the balance of benefits and harms of screening for AAA with ultrasonography in women aged 65 to 75 years who have ever smoked or have a family history of AAA. **(I)**
- Recommend against routine screening for AAA with ultrasonography in women who have never smoked and have no family history of AAA. **(D)**

Epidemiologic literature commonly defines an "ever smoker" as someone who has smoked 100 or more cigarettes. Indirect evidence shows that smoking is the strongest predictor of AAA prevalence, growth, and rupture rates. There is a dose-response relationship, as greater smoking exposure is associated with an increased risk for AAA.

Ultrasonography is the primary method used to screen for AAA in primary care because of its high sensitivity (94%-100%) and specificity (98%-100%). It is also noninvasive, is simple to perform, and does not expose patients to radiation.

Surgical repair is standard practice for men with an AAA of 5.5 cm or larger in diameter

or an AAA larger than 4.0 cm in diameter that has had an increase of ≥1.0 cm in diameter over a 1-year period. Endovascular aneurysm repair (EVAR) has become the most common approach for elective AAA repair. Open repair is a time-tested, effective treatment for AAA. In the US, 80% of intact AAA repairs and 52% of ruptured AAA repairs are performed using EVAR.

My Comment:
A confession – I'm "guilty" of historically being one with a "low uptake of screening." Without the Medical Annual Wellness Visit, my screening rate for AAA for eligible patients would have likely continued to be abysmal. With these "nudges," my experience is that the acceptance rate for screening is quite high … and have detected some pretty impressive AAAs in the process.

Reference:
USPSTF Final Recommendation Statement December 2019: AAA – Screening: Link

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From the Literature

2) Fasting to Advance Health

With more than 2 in 3 adults suffering with overweight or obesity, Americans are searching for effective weight loss methods, and fasting has recently gained attention as a possible approach for weight loss and improving health. Fasting is the practice of abstaining or reducing consumption of food, drink, or both, for a specific period of time. It has long been integral to many religious and ethnic cultures. Everyone fasts for at least some part of the day, generally the 8 or so hours that one spends sleeping every night. Physiologically, once one has gone 8-12 hours without eating, the body enters a state of "fasting" that can lead to number of metabolic changes.

Intermittent fasting (IF) is becoming increasingly popular among people who want to lose weight or keep to a healthy weight. The basic premise involves taking periodic breaks from eating. IF has many forms. Some common ones include;

- fasting for up to 24 hours once or twice a week with ad lib food intake for the remaining days, which is known as periodic prolonged fasting (PF) or intermittent calorie restriction (ICR). A popular version of this is the "5:2 diet," where followers eat about 25% of their recommended calorie needs (about 500-600 calories) or fast completely from calories on two scheduled fasting days (each 24 hours) and then eat normally the other five days that week;
- time-restricted eating (TRE), such as eating for only a specified time (usually between 8-10 hours) then fasting for the other hours of the day with the aim to maintain a consistent daily cycle of eating and fasting to support circadian rhythms;
- alternate-day fasting (ADF), in which most involve alternating ad lib intake and fast days (≤ 25% of energy needs) with some protocols allowing no caloric intake on fast days. Thus, the degree of fasting varies in ADF based on the specific protocol.

Some animal models have found that IF reduces oxidative stress, improves cognition and delays aging. Additionally, IF has been shown to have anti-inflammatory effects, promote autophagy, and benefit the gut microbiome. The benefit-to-harm ratio varies by model, IF protocol, age at initiation, and duration.

In clinical trials, caloric restriction and IF result in similar degrees of weight loss and improvement in insulin sensitivity. Although these data suggest that IF may be a promising weight loss method, IF trials have been of moderate sample size and limited duration. More rigorous research is needed. While it has generally been shown to be safe, specific medical problems and medication regimens need to be taken into account, and it is unknown which individuals would most benefit from IF and which form of IF is most effective.

A recently published small pilot study of TRE for women with metabolic syndrome showed that limiting food consumption to a 10-hour window each day for 12 weeks promoted weight loss and improved cardiometabolic abnormalities. Importantly, while they were not told to reduce their caloric intake or change their diet in any way during the 10-hour time-restricted eating window, on average they ate 200 calories less per day during the study period. Most of the women were obese, with an average body mass index (BMI) of 33. Over the 12 weeks of the study, participants lost on average 7 pounds or approximately 3% of their body weight, relative to baseline (P = 0.0003). The time-restricted eating strategy also had a number of favorable effects on cardiometabolic parameters, including significant reductions in total cholesterol, LDL cholesterol, non-HDL cholesterol. There were also significant reductions in systolic (5 mmHg) and diastolic (6 mmHg) blood pressure, and among those with elevated fasting glucose levels at baseline, there was a significant reduction in A1c (0.14)

My Comment:
Beyond poor food quality, I believe one of the central drivers of the obesity epidemic is our ad lib access to food and very little "dietary impulse control." This kind of structure can help with that. I personally have been fasting at least one day a week for almost 2 decades and since August have been following a 14:10 TRE cycle. This has resulted in a 5-pound weight loss, increased lean body mass, and greater energy. To this point, I have not incorporated recommendations for fasting into my clinical practice.

For that reason, I reached out to colleague and my "Lifestyle Medicine guru," Beth Polk, MD, her insights. She replied*, "In my limited experience with discussing fasting with patients, I have found that many are receptive to TRE and willing to try limiting intake to an 8-10 hour window. It's pretty easy to explain for them to take in calories (including beverages) only during certain hours. The early data that one can improve weight and insulin sensitivity with merely taking advantage of their circadian rhythms and not having to attend to calorie intake is exciting and appealing to many. We will see if this bears out in larger trials, but in the meantime, the potential reward certainly outweighs the risk. I am also intrigued by the potential to stimulate autophagy and promote longevity, which is why I practice this myself. Personally, I find it easy to do and have noticed some benefits physically such as increased lean body mass and energy."*

Of course, the key to any diet plan is adherence. Researchers in the study contacted participants 3 months after the study ended and found only 5/19 were still adherent to the calorie window. Obviously, we still have much to learn. In the meantime, for those of you who can't even imagine going 24 hours without food, I would challenge you to give a 24 hour fast a try, if for no other reason than to prove to yourself that you can!

References:

- Stockman MC, et al. Intermittent Fasting: Is the Wait Worth the Weight? Curr Obes Rep. 2018 Jun;7(2):172-185. Article

- Wilkinson M, et al. Ten-Hour Time-Restricted Eating Reduces Weight, Blood Pressure, and Atherogenic Lipids in Patients with Metabolic Syndrome. Cell Metabolism 31, 1–13. January 7, 2020. Article
- Tello, M. Intermittent fasting: Surprising update. Harvard Health Blog. June 29, 2018. Blog

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From Choosing Wisely and the AAP Section on Surgery

3) Management of Asymptomatic Umbilical Hernias

Avoid referring most children with umbilical hernias to a pediatric surgeon until around age 4-5 years.

Umbilical hernias, resulting from failure of complete closure of the umbilical ring after birth, affect up to 25% of newborns. Unlike inguinal hernias, or umbilical hernias in adults, a majority of newborn umbilical hernias will close spontaneously – about 85% closure rate by age 5 years. Therefore, patients with umbilical hernias may safely be observed until at least age 4 years; at that point pediatric surgical consultation is recommended to discuss surgical repair option. Special consideration for earlier consultation can be given in cases of parental concern.

Larger umbilical hernias – vaguely defined as those over 1.5 cm in diameter – have a lower likelihood of spontaneous closure. Complications of umbilical hernia, such as incarceration (estimated at 0.2-4.5%) or strangulation (estimated at less than 0.8%) are very rare; thus the risk/benefit ratio in surgical closure of umbilical hernias strongly favors observation. Even markedly large or protuberant umbilical hernias (such as a proboscis, or elephant-trunk, type hernia) may undergo spontaneous closure and are not clearly associated with an increased risk of complications when not surgically closed. Non-operative closure techniques such as umbilical strapping are generally ineffective, can lead to skin breakdown, and should be avoided.

Complications following umbilical hernia repair in children are rare and may include infection (estimated at less than 1%) and recurrence (estimates ranging from 0.3%-2.4%). Recurrence rates appear to be higher in children repaired at an early age (< 4).

My Comment:
This Pointer is a practice-changer for me, since I had been generally referring these children for evaluation at 2 years of age. Of course, reassurance is vital for the parents of these patients, and this updated recommendation can help increase your confidence providing such reassurance.

Reference:

Choosing Wisely Campaign and the American Academy of Pediatrics – Section on Surgery. Released November 4, 2019. Link

Feel free to forward Take 3 to your colleagues. Glad to add them to the distribution list.

Mark

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