Top Ten Things to Know
2018 ACC/AHA/HRS Guideline on the Evaluation and Management of Patients With Bradycardia and Cardiac Conduction Delay

1. Sinus node dysfunction (SND) is most often related to age-dependent progressive fibrosis of the sinus nodal tissue and surrounding atrial myocardium leading to abnormalities of sinus node and atrial impulse formation and propagation and will therefore result in an array of different bradycardia or pause-related syndromes.

2. Both sleep disorders of breathing and nocturnal bradycardias are relatively common, and treatment of sleep apnea not only reduces the frequency of these arrhythmias but also may offer cardiovascular benefits. The presence of nocturnal bradycardias should prompt consideration for screening for sleep apnea, beginning with solicitation of suspicious symptoms. However, nocturnal bradycardia is not in itself an indication for permanent pacing.

3. The presence of left bundle branch block on electrocardiogram (ECG) markedly increases the likelihood of underlying structural heart disease and of diagnosing left ventricular systolic dysfunction. Echocardiography is usually the most appropriate initial screening test for structural heart disease, including left ventricular systolic dysfunction.

4. In sinus node dysfunction, there is no established minimum heart rate or pause duration where permanent pacing is recommended. Establishing temporal correlation between symptoms and bradycardia is important when determining whether permanent pacing is needed.

5. In patients with acquired second degree Mobitz type II atrioventricular (AV) block, high-grade AV block, or third-degree AV block not due to reversible or physiologic causes, permanent pacing is recommended regardless of symptoms. For all other types of AV block, in the absence of conditions associated with progressive AV conduction abnormalities, permanent pacing should generally be considered only in the presence of symptoms that correlate with AV block.

6. In patients with a left ventricular ejection fraction (LVEF) between 36% to 50% and AV block, who have an indication for permanent pacing and are expected to require ventricular pacing greater than 40% of the time, techniques which provide more physiologic ventricular activation (e.g., cardiac resynchronization therapy or His bundle pacing) are preferred to right ventricular pacing to prevent heart failure.

7. Since conduction system abnormalities are common after transcatheter aortic valve replacement (TAVR), recommendations on post-procedure surveillance and pacemaker implantation are made in this guideline.

8. In patients with bradycardia and indications for pacemaker implantation, the importance of shared decision making, and patient-centered care is endorsed and emphasized in this guideline. Treatment decisions are based not only on the best available evidence, but also on the patient’s goals of care and preferences.

9. Using the principles of shared decision making and informed consent/refusal, patients with decision making capacity or his/her legally-defined surrogate has the right to refuse or request withdrawal of pacemaker therapy, even if the patient is pacemaker dependent, which should be considered
palliative, end of life care; not physician-assisted suicide. However, any decision is complex, should involve all stakeholders, and will always be patient specific.

10. Identifying patient populations that will benefit the most from emerging pacing technologies (e.g., His bundle pacing, transcatheter leadless pacing systems) will require further investigation as these modalities are incorporated into clinical practice.