CONTENTS

NEWSLETTER

3 CVT CORNER

6 NEWS YOU CAN USE

9 UPCOMING EVENTS

11 ANNOUNCEMENTS
Pearls and Perils

This month: PACEMAKERS

First a quick overview:

Pacemakers only treat bradycardia. An implantable cardiac defibrillation (ICD) treats tachycardia. The key indication for a pacemaker is SYMPTOMATIC bradycardia, with heart rates less than 40 beats per minute or pauses over 3 seconds. Most patients who demonstrate a need for permanent pacing have either sinus node dysfunction (also known as sinus node dysfunction, or SSS) or high grade AV block.

Syncope itself is not necessarily an indication for pacing, although it may be caused by bradycardia best treated by a pacemaker. Pacing will not prevent fainting caused by vasodilation and hypotension, such as vasovagal syndrome or orthostatic hypotension, even if bradycardia is part of their episodes.

Patients with known ventricular tachycardia or fibrillation, or at high risk for sudden death (EF <0.35 on optimal medical therapy) generally require treatment with an ICD rather than a pacemaker alone, even if the mechanism for their syncope is shown to be bradycardia. All current ICDs also have bradycardia pacing included.

MRI Compatible Pacemakers

MRI compatible pacemakers have been developed, which allow pacemaker patients to undergo MRI scanning. If your pacemaker patient has an MRI ordered, first check to see if their device AND leads are MRI compatible. The pacemaker system must have been implanted for more than 6 weeks. The patient must not have additional active implantable devices such as infusion pumps, nerve stimulator units, or abandoned pacing leads. The pacemaker will need to be programmed before and after the scan to an “MRI safe” mode. This temporary programming is generally arranged with the pacemaker representative directly.

Avoiding Unnecessary RV pacing

Newer pacemakers can be programmed to reduce ventricular pacing. Reducing unnecessary ventricular
Pacing has been shown to improve clinical outcomes by reducing the risks of atrial fibrillation (AF)\(^1\) and heart failure hospitalization.\(^2\) There is a 1\% increase in the risk of AF for each 1\% increase in cumulative right ventricular pacing.\(^2\)

To reduce ventricular pacing, device companies have developed various algorithms to increase the delay between the atrium and the ventricle, to allow more time for native ventricular beats to occur.

On the first strip (demonstrating MVP algorithm by Medtronic), the pacemaker paces in the atrium, and then allows time for a native ventricular beat to occur. When no native beat occurs, the ventricle is paced. The lone P wave is not indicating a loss of capture, but is programmed to do this. The pacemaker is waiting for a predetermined amount of time to allow native beats to occur. When there is no native ventricular beat, the pacemaker paces the ventricle, as seen on the 4th ventricle beat. The pacemaker will then wait again and see to ventricle will conduct on its own, which it did in the 5th ventricle beat and thereafter.

When no native conduction is noted for several beats (2 out of 4 in this example above), then the pacemaker will go into A-V pacing mode temporarily. Again, the lone paced P complexes without QRS complexes seen in the strip below is not indicating loss of capture but the pacemaker waiting to see if is a native ventricular beat will occur. The ventricular timing is independent of the atrial timing, which is why there is an atrial paced beat very close to the paced ventricular paced beat (4th QRS complex). It is not undersensing. You will see varying PR intervals. This is normal and expected in this type of programming.
The pacemaker will continue to monitor the AV conduction to see if there is a native ventricular beat. If there is, then the pacemaker will go back to watching and pace when needed. Unless you know that this pacemaker feature is turned on, it is challenging to tell what is going on. These features are usually programmed on at the time of implant, to avoid unnecessary RV pacing. Looking for these patterns will help determine if the pacemaker is working correctly. (Strips are courtesy of Medtronic)

Keep in mind that all of the algorithms designed to reduce unnecessary RV pacing are used almost exclusively in patients with sinus node dysfunction. Patients with complete AV block have no intrinsic AV conduction, and thus will be pacing the right ventricle the overwhelming majority of the time, and this will not change with the above algorithms.


Focus Areas:

- Business of Medicine
- Prevention Section
- CVT Section
- Poster Section Abstract Submission: Submission of original abstracts relating to cardiovascular disease are invited and will be considered for poster presentations during the conference. Poster session will take place from 12-2 P.M. on Saturday, November 5. Submit online or via Word format to waacc@aminic.org Deadline Sept 30, 2016. Space is limited to the first 10 submissions in each of the two categories.
- New Technologies Section
- Heart Failure Section

See details on the Upcoming Events page and the WAACC.org website.
NEWS
YOU CAN USE

INFORMATIONAL

JACC Leadership Page: Where Will Cardiology Be in 2050?
In a recent Leadership Page published in the Journal of the American College of Cardiology (JACC), ACC President Richard A. Chazal, MD, FACC, looks forward to the future of cardiology. By examining current trends, he predicts what the next 50 years might look like, covering topics such as telemedicine, wearable technology, robotics, genetic testing and more. “There is little doubt that the days of cardiovascular disease being the number one killer around the world are numbered,” he writes, “I also have no doubt that the College’s members will play a significant role in making this happen.” Read more.

Coronary Artery Disease Infographic Now Available
Coronary artery disease (CAD) affects more than 15 million American adults, making it the most common type of heart disease. It's also the leading cause of death in men and women in the U.S. Since CAD usually progresses over many decades, patients have troubles understanding this disease. ACC’s CardioSmart CAD Infographic explains this condition in an easy-to-understand and interactive format. CardioSmart’s infographic posters are ideal point-of-care graphics for your waiting and exam rooms, and can be downloaded for free. To receive more tools and resources, sign up to become a CardioSmart Practice!
Performance, Quality Measures Updated For Treating AFib
Updated clinical performance and quality measures for treating adult patients with atrial fibrillation (AFib) or atrial flutter have been expanded to include the inpatient setting, and now address care domains that were not previously included, such as patient safety, effective clinical care, communication and care coordination. The updated measure set was released June 27 by the ACC and the American Heart Association, and published in the Journal of the American College of Cardiology. “The writing committee believes that implementation of this clinical performance and quality measure set by providers, physician practices, and hospital systems will help to enhance the quality of care provided to patients with AFib in both the inpatient and outpatient settings, and thereby improve their quality of life,” says Paul A. Heidenreich, MD, MS, FACC, chair of the writing committee. Read more on ACC.org.

ACC Submits Comments to CMS on Proposed MACRA Structure
The ACC has submitted extensive comments to the Centers for Medicare and Medicaid Services (CMS) on the proposed regulations to implement the Medicare Access and CHIP Reauthorization Act of 2015 (MACRA) based on the feedback of key member groups. The MACRA legislation repealed the flawed Sustainable Growth Rate (SGR) formula, which focused on fee-for-service payment, where higher-performing physicians had no ability to earn more for outcomes. Replacing SGR with MACRA will pave the way for a new payment system that places importance on quality care. MACRA also creates stability for Medicare payments by mapping out payment updates for ten years and beyond – stability that was severely lacking under the SGR formula. CMS will release the final regulations by Nov. 1, 2016, which will go into effect on Jan. 1, 2017 – the proposed start of the reporting period under the new payment program. The ACC will continue to work with CMS throughout the regulatory process to establish details of how the law will function. The ACC will also be developing education and resources to help members prepare for the changes ahead. Read the College’s comments on ACC.org.
ACC Archived Webinars
Did you know that you can find archived webinars from throughout the years from the ACC on ACC.org? As a member, you have access to this wealth of information here. To access them, you must have an ACC.org log-in and use the confirmation code and webinar access link emailed to you once you. Questions? Contact ACC’s Resource Center at Phone: 202-375-6000, ext. 5603 or 800-253-4636, ext. 5603 or resource@acc.org.

Is Your ACC Member Profile Up-To-Date?
The ACC wants to make sure it’s sending members only the most relevant information. To that end, the College is encouraging all members to update their ACC profile, including contact information, specialty areas, clinical interest areas and practice information. Don't miss out on the latest cardiovascular research, new clinical guidelines, advocacy updates, ACC news and member benefits. Update your profile online at ACC.org/MyProfile.
UPCOMING EVENTS

SEP 11-13
ACC Legislative Conference 2016
Location: Fairmont Hotel Washington, DC
Registration $100: FACCs
$50: Cardiovascular Team Members,
Cardiovascular Administrators, and Early Career physicians
Complimentary registration for Fellows in Training (FITs).
Register Here | More Information

OCT 7-8
3rd Annual Full Spectrum of Heart Failure Therapy: Reviving The Heart
Faculty will cover cutting-edge topics pertinent to the practicing primary care physician, hospitalist, cardiologist, intensivist, palliative care physician, cardiac surgeon, fellow and resident, advanced care practitioner, nurse, pharmacist and allied health professional for patients with heart failure of varying severity and etiology.
Location: Motif Hotel Seattle
View Brochure | Register

OCT 20
WA ACC Cardiovascular Team Member Dinner Program
Time: 5:00PM - 9:00PM
Location: The Historical Davenport Hotel
10 S. Post St. Spokane, WA 99201
Register Here | More Information
NOV 4-5  
**WA ACC Annual Chapter Meeting**

Join us to welcome our ACC President, Richard A. Chazal, MD, FACC to Seattle!

**Time:** 5:00PM - 9:00PM  
**Location:** Pan Pacific Hotel  
2125 Terry Ave Seattle, WA 98121

**Poster Section details**  
Poster Section Abstract Submission: Submission of original abstracts relating to cardiovascular disease are invited and will be considered for poster presentations during the conference. Poster session will take place from 12-2 P.M. on Saturday, November 5. Submit online or via Word format to waacc@amin.org. Deadline Sept 30, 2016. Space is limited to the first 10 submissions in each of the two categories.

DEC 1-3  
**The 6th Annual International Hawaii Symposium on Diagnostic and Therapeutic Modalities in Heart Failure**

A Comprehensive and Practical Review of Advances in Heart Failure and Biomarkers

Endorsed by the California, WA, AZ, CO, Hawaii and NM Chapters of the American College

**Location:** The Mauna Lani Bay Hotel & Bungalows  
68-1400 Mauna Lani Drive Kohala Coast. Island of Hawaii 96743

**More Information**
Let's help raise the tobacco age to 21 in WA! Go to www.washington21.org, an informational website that houses helpful fact sheets, a growing roster of advocates and supporters, past media coverage and an opportunity to message your lawmakers!

Congratulations to James Lee, MD University of Washington, Seattle. James will receive one of the Early Career member travel awards to attend ACC’s 2016 Legislative Conference, Sept. 11-13, 2016.