



Questions & Answers from the 1/20/21 webinar:

“Living with a Pacemaker or ICD”

Please remember that the answers provided here by Doug Rachac are not to be taken as medical advice. Always consult with your health care professional team regarding any device or medical related questions.

Q: My latest echo showed an EF of 50-55%. Should that be good enough for an ICD/Pacemaker cardiomyopathy patient?

A: It varies patient to patient, so this is one question that should be directed to your doctor. An EF of 50 could be great for one patient and not as great for another.

Q: I suffered a massive Pulmonary embolism and my ejection fraction dropped to 25-30 % and I'm being monitored for a CRT-D device. How will that help me? I have nonischemic cardiomyopathy.

A: It's best to discuss this question with your doctor as it varies patient to patient. In general, a CRT system helps synchronize the bottom chambers of the heart (the ventricles) in an effort to increase the EF.

Q: Can I use a metal detector as long as I keep the coil away from my device?

A: Yes, as long as you keep the coil end (the part that goes against the ground) 12 inches from your device you can safely use a metal detector. You can find more answers to questions like these if you google the name of your device manufacturer along with the word “Electromagnetic Compatibility Guide”. There you will find a long list of items with recommendations from your manufacturer on how to safely use those items. You can also find answers to questions like these at www.AskTheICD.com.

Q: Why can't I have an MRI?

A: Some older devices and leads are not MRI compatible. The newest devices and leads on the market have design changes that make them MRI compatible, but every implanted item you have needs to be MRI compatible in order for you to be able to have a safe MRI. For example, my ICD is not MRI safe, and one of my leads is a particular defibrillation coil that will never be MRI safe. So, even when I get my next device, which will be MRI “safe”, I will still have this non-MRI safe coil in my body meaning I will never have a truly MRI safe system.

Q: If magnets are not an issue, what's up with the super thorough pat-downs at the airport (when we start travelling again)?

A: Excellent question! It is now safe for device patients to safely navigate airport security checkpoints just like everyone else. Our devices are entirely unaffected by the security measures used today. In the past 10-15 years our devices have been re-designed with more shielding while the security checkpoints have been made more efficient while using less magnetic energy. Today every medical device company recommends that patients simply walk through the archway without stopping or touching the archway. The millimeter wave scanners (the one that rotates around you) is entirely safe. And it's also safe to be wanded, just ask that they not hold the wand directly over your device. A few passes with the wand is safe. Personally, I no longer mention I have a device. I go through security like everyone else, and on the rare occasion that my device is detected, that's when I tell them about my device and I'm quickly sent on my way.

Q: I've had a Medtronic pacemaker, since August. I am sensitive to something in my laptop and cell phone which cause my bottom lead to pace. Can you talk about this and why some people and not others? I went to a cell phone store and had to leave immediately because of this. Both my devices were tested at the doctor's office in the pacemaker lab.

A: This is very interesting, and isn't supposed to happen. My recommendation is that you contact Medtronic patient services and explain this issue. They may want to test this effect with you to see if they can determine what is happening. Medtronic patient services can be reached at (800) 551-5544, x41835 (Toll free) Monday - Friday, 8 am to 5 pm Central Time.

Q: Why doesn't my pacemaker show up on my phone as a Bluetooth device?

A: Not all pacemakers are Bluetooth enabled. In fact, only the most current devices are Bluetooth capable, so it may be that you don't have a Bluetooth enabled device. If you do have a Bluetooth device and can't connect to the manufacturer's app, contact the device manufacturer and they should be able to help you out. Another reason your Bluetooth device might not be showing up on your phone is that Bluetooth enabled devices are not constantly trying to connect to the outside world. The Bluetooth technology in a device is low energy and only activates periodically (think of a printer – it only connects when it needs to versus a speaker that is always connected). These devices will try to connect to the outside world every few minutes instead of every few seconds.

Q: When using an app to get information from a device, is there anything to worry about like changing settings or interference from other Bluetooth devices.

A: No, there is no possible way that a patient using an app can change the settings on a device. Only a device programmer, operated by a trained technician, can alter device settings. Also, other Bluetooth devices won't interfere with your device. Even so, it's a good idea to keep other Bluetooth items at least 6 inches (15cm) from your device, which isn't hard to do in daily life.

Q: Does the defibrillator attempt to slow your heart beat before shocking you if so how and would you "feel it"?

A: Yes, most defibrillators have a technology called Anti-Tachycardia Pacing (ATP). This is a very fast pacing impulse that tries to interrupt the arrhythmia in an effort to restore a normal rhythm. In these

devices ATP is attempted before a shock, in the 6-9 seconds it takes for the device to charge the capacitors. Some patients will feel ATP pacing, and others will not.

Q: At what percent do they change the battery?

A: Battery life is actually measured in remaining volts the battery is able to produce. When a device falls below a certain voltage for 3 days in a row it triggers the “Elective Replacement Indicator”, or ERI alert. This tells your clinic that your device has about 6 months of battery life left. At this point you would be scheduled for a change-out in the next 1-3 months. Device manufacturers convert the remaining battery voltage to an estimated percentage of battery capacity remaining or a time range estimated until ERI. It is not uncommon to have multiple consecutive reports that show “10% remaining” or “12 months remaining” because the battery has not yet triggered the ERI alert.

Q: My husband had an ejection fraction of 25 in July which dropped to 10 on the 8th December. He's 42. They have said he will ‘probably’ get a device in about 3 months after Entresto has had a chance to work. Should we push for a defibrillator device before this?

A: This is something to discuss with your husband’s physician. Unfortunately, I am not familiar enough with the various medications out there to make a suggestion. But, it never hurts to discuss all of your options with a physician, especially since your husband’s doctor has already indicated that a device is likely.

Q: I thought all devices are implanted on the left side.

A: The vast majority are implanted in the left pectoral area. There are a number of factors that determine the implant location with one factor being that most people are right hand dominant and prefer the device to be on the opposite side as their dominant hand. Physicians also take into consideration anatomical and medical conditions to determine implant location.

Q: If someone is touching me when I am shocked, will they get shocked?

A: No. They will likely feel you “jolt”, and may feel a slight tingle, like static electricity, but they will not get shocked. If you re-watch the video I showed of soccer player Anthony Van Loo (you can find that here: <https://youtu.be/0zEfkd9F5k>), you will see his trainer place his hand on Anthony’s chest about a second before Anthony’s ICD fires, and the trainer is not injured. This is even true in the rare and unfortunate (but true) cases where ICDs have shocked during intimacy.

Q: Please talk about 2-cycle engines: chain saws, blowers, etc. Is there a device that can be used to test or measure EMI, so we can see if it is safe, or what distance it will need to be?

A: I am uncertain if there is a device that can measure EMI, but every device manufacturer publishes an “Electromagnetic Compatibility Guide” for their patients which explains how much distance is recommended for various items we use in our daily lives. You can find this by Googling the many of your device manufacturers and the words “Electromagnetic Compatibility Guide”. For example, this is Medtronic’s EMC Guide. <https://www.medtronic.com/us-en/patients/electromagnetic-guide.html> The general recommendation for items like chain saws and leaf blowers (gas powered engines) is to keep the ignition system of the item you’re using 12 inches (30cm) from your device. When using a chain saw it is

generally considered a good idea to keep the whirling chains of death more than 12 inches from your chest, so as long as you can do that, you can safely use a chainsaw with an implanted device. You can also check out the www.AskTheICD.com website for more information.

Q: Backpack-mounted leaf blowers are kind of reverse-hugged....(Are these engines too close?)

A: This is a tough call. The recommended distance from gas powered engines is 12 inches (30cm) from the ignition system. When measured from the device, which is on the front of your body, to the ignition system on the engine, which is on the back pack, you are usually right around the 12 inch mark. It would be best to contact your device manufacturer and ask for their recommendation.

Q: Can my ECHO EF 50-55% reduce my dependency on my ICD/pacemaker.

A: It could, but each patient is different. The good news is that if your heart heals to a point where it needs your pacemaker less and less your pacemaker will recognize that and will only pace you when your heart needs help.

Q: Is a cardiac arrest the same as complete heart block?

A: No, a cardiac arrest is a sudden dangerous change in your heart rhythm where your heart rate is dangerously fast causing the bottom chambers to quiver versus “beat”. Cardiac arrest requires a shock or Anti-Tachycardia pacing to resolve. Heart block is when the electrical signal from the top chamber of the heart (where the heart’s natural pacemaker is) is not reaching the bottom chamber of the heart. Heart block patients are treated with a pacemaker, but if that patient is also at risk for cardiac arrest they may also be treated with a defibrillator (all defibrillators have the same capabilities as a pacemaker with the added defibrillation capabilities).

Q: If you get a device can you stop taking heart medication?

A: Usually not, but sometimes you’ll be able to decrease the amount of medication you use. This is a great question to discuss with your physician.

Q: Curious...my heart block was 36 seconds. Is a “flat line” the same as Cardiac arrest?

A: No, a flat line, or a pause, is different from a cardiac arrest. A defibrillator shock wouldn’t help resolve a flat line or “pause” in the heart. Pauses are addressed with pacing versus a cardiac arrest which is addressed by a defibrillator.

Q: Is it normal to be charged for a visit every month for monitoring my ICD?

A: Ah, the American Healthcare System... . How frequently your device is monitored by your physician varies by physician and by patient. Some insurance companies cover all device monitoring visits (whether in person or remote), others, like mine, do not, and the charges can range from \$150-\$500.