



THE NASHVILLE DBS NEWSLETTER

EDITORIAL LETTER

FAQs: Contraindications and Using the Activa Patient Programmer to Check Battery

By Dr. John Fang and
Ms. Jessica Stroh

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information.

As DBS technology continues to advance, greater complexity has become a regular part of the DBS experience.

All of the available implanted generators now offer patient programmable features. In order to keep the patient programmer (that pocket sized black plastic thing) small, there are now several screens that need to be used in order to check battery life and to set different voltages (or other settings) that your DBS team have set up for you.

Although a SIMPLE mode remains in Activa systems which is similar to the older Itrel II and Soletra models, there is now a digital readout. Some patients will still prefer this relatively uncomplicated arrangement for their DBS.

Other users may prefer the ADVANCED mode which is more similar to the old Kinetra, but also adds a digital readout plus more options in how the DBS works for you.

For this issue, we will focus on contraindications to DBS and on how to check your Activa implant's battery.

We also continue to thank patients who contribute to our interviews, which will return in future editions.

We continue to observe that everyone with DBS develops a somewhat different perspective which can provide a useful counterpoint to the typical regulatory information.

We continue to invite everyone interested in DBS to send in questions and comments. We enjoy both positive and constructive feedback. To provide an accurate and useful reference for learning about DBS remains our primary goal.

Sincerely,

John Y. Fang, M.D.
on behalf of the editorial staff
Dr. Joseph Neimat
Dr. Fenna Phibbs
Ms. Rena' Carter
Ms. Jessica Stroh

Frequently Asked Questions

Can I get a MRI or X-ray?

Because the DBS system has several electrical and metallic parts, MRIs and X-rays are difficult to do.

MRIs of the spine and body are not recommended. MRIs of the brain alone can be done using a special protocol developed by Medtronic. Most MRI machines are not compatible with this protocol. Please contact your DBS team prior to scheduling a brain MRI.

X-rays including CT scans rarely interfere with the DBS system, but the metal in the system can obscure the area being imaged. Your x-ray providers may need to adjust the x-ray path to visualize these areas.

You should also bring your patient programmer and check the device after a CT scan to ensure that it is working properly. If not, contact your DBS team for an appointment and notify the radiology team.

Can I get diathermy or TMS?

Diathermy, including shortwave diathermy, microwave diathermy or therapeutic ultrasound diathermy, is contraindicated because diathermy's energy can be transferred through the implanted system (or any of the separate implanted components), which can cause neurostimulation system or tissue damage and can result in severe injury or death. Transcranial Magnetic Stimulation (TMS) is contraindicated for patients with an implanted DBS System.

How do I tell if my battery has run out?

Each of the different implant devices (Itrel II, Soletra, Kinetra, Activa PC, Activa RC, and Activa SC) has a different method to determine whether the battery is running out. Since most people currently have one of the Activa devices, we will cover how to check the battery life on these devices.

For ACTIVA RC:

The Activa RC has a total battery life of nine years if recharged properly. If the battery is allowed to run out three times, it will cease to function sooner than nine years. Thus, the battery indicator on the Activa RC reflects only the recharge status. Generally, if the device is recharged at least every four days, you should not run into any problems with premature loss of function.

For Activa PC and Activa SC:

These devices have two modes: SIMPLE and ADVANCED. You can tell which mode you are in once you synchronize your patient programmer with your Activa neurostimulator.

For SIMPLE mode, turn on your patient programmer with the round white button and press the orange check key to synchronize your programmer and your Activa device. You will see two lines of text next to two icons. The upper line shows whether your device is turned ON or OFF. If there is one other line below this ON/OFF line, you are in SIMPLE mode. The lower line on the LCD screen should read "OK", meaning your battery is fine. If it reads "ERI", your battery is running low. Please contact your DBS team to arrange for replacement. If you press the oval Navigator key to the right, the actual battery voltage will be displayed. Normal voltage is greater than 2.60.

For ADVANCED mode, turn on your patient programmer with the round white button and press the orange check key to synchronize your programmer and your Activa device. There will be three lines of text to indicate that you are in ADVANCED mode. There should be a fine rectangular box around the middle line. If it read "OK", your battery is fine. If it reads "ERI", your battery is running low. Please contact your DBS team to arrange for replacement. If you press the oval Navigator key to the right, the actual battery voltage will be displayed. Normal voltage is greater than 2.60. Note that the rectangular box must be on the middle line (reading "OK" or "ERI") to see the battery voltage. The numbers on the lowest line show the amplitude of your settings, not the battery life. These settings will affect how quickly your battery runs out, but they do not actually measure the voltage of the device itself.

Please see the graphic from Medtronic on the next two pages.

Frequently Asked Questions (cont'): Activa PC or SC (SIMPLE)

Checking Your Neurostimulator Battery Value

Check your Neurostimulator Battery Value **ONCE PER WEEK** by either placing your Patient Programmer over your implant or by using the Programmer Antenna.

Checking your Neurostimulator Battery Value in Simple Mode



1. Press Check Key
(orange button; top right)

2. Press Navigator
Key to the right

3. View Battery Value

VALUE LEGEND: Greater than 2.60V = Battery OKAY

@ 2.60V = ERI (Elective Replacement Indicator) **CALL your Physician immediately**

@ 2.20V = EOS (End Of Service)

Remember...

Check your Neurostimulator Battery Value
ONCE PER WEEK

Upon seeing the ERI Icon , call your Physician immediately.

Frequently Asked Questions (cont'): Activa PC or SC (ADVANCED)

Checking Your Neurostimulator Battery Value

Check your Neurostimulator Battery Value **ONCE PER WEEK** by either placing your Patient Programmer over your implant or by using the Programmer Antenna.

Checking your Neurostimulator Battery Value in Advanced Mode



1. Press Check Key
(orange button; top right)

2. Confirm Selection
Box is on Battery
Row (middle)

3. Press Navigator
Key to the right

4. View Battery Value

VALUE LEGEND: Greater than 2.60V = Battery OKAY

@ 2.60V = ERI (Elective Replacement Indicator) *CALL your Physician immediately*

@ 2.20V = EOS (End Of Service)

Remember...

Check your Neurostimulator Battery Value
ONCE PER WEEK

Upon seeing the ERI icon , call your Physician immediately.