



When to consider Deep Brain Stimulation or other advanced therapeutic options?

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Making the decision to have DBS

- Why consider DBS?
 - Medication is not lasting long enough → off time
 - Taking pills several times per day
 - Bothersome tremor that medication does not fully help
 - Dystonia that is not responding to medication
 - Bothersome dyskinesia

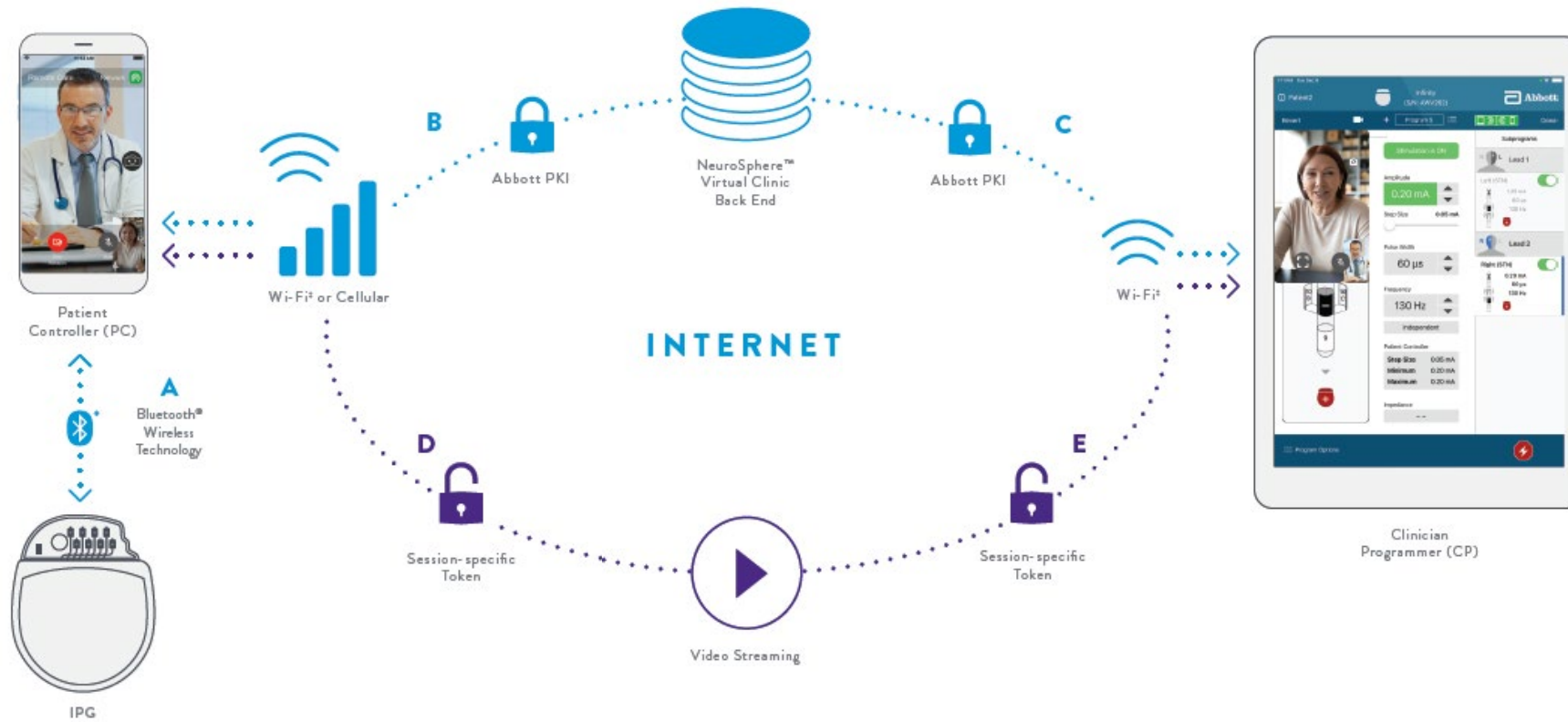
Now we have decided to have DBS....now what?

- On + Off medication examination (“Levodopa Challenge”)
- MRI brain + head CT scan
- Meet with the neurosurgeon to discuss surgical risks + what type of device
- Meet with neuropsychiatry + neuropsychology for cognitive testing
- Team meets to discuss your case
- You will be notified + several appointments scheduled if you are a candidate
 - Pre-operative testing (lab work, etc)
 - Surgery #1 (implant the lead(s))
 - Surgery #2 (implant the second lead + battery placement)
 - Initial Programming + Follow-up Programming

DBS Options

- 3 companies now make DBS
- Things to consider:
 - Rechargeable vs non-rechargeable battery
 - Non-rechargeable: nothing to do day to day, but replacement every 2-7 years
 - Rechargeable- recharge daily 5-10 minutes or an hour a week on average- replace every 15 years
 - Directional vs non-directional electrodes in your brain
 - All companies now have directional programming → More options to improve symptoms and limit side effects
 - Ability to have remote programming
 - Asynchronous vs Synchronous Programming
 - About 80% of patients want to see their own provider for programming without going to the office or seeing a local provider who is not experienced in DBS programming
 - Provider can see + talk to you on the screen while connecting to your battery and make changes to your DBS virtually.
 - There is more than one place to put DBS- your team typically chooses this for you, but your results on decreasing medication may differ from others pending placement

Telemedicine DBS



Caring after DBS and beyond

- **What patients report is the worst about surgery-**
 - Sound of the drill
 - Placement of the halo
 - Hair loss + 2 small bumps on head
- **After surgery**
 - Rest, rest, rest. Brain surgery takes time to recover from
 - Stay hydrated
 - Anesthesia can bring on extra fatigue in Parkinson's Disease patients
 - DO NOT touch incisions as much as possible + be careful that anything placed on the head is clean
 - No dental work for 6 months (site specific)
 - Antibiotics for dental work for life to decrease risk of infection

Caring after DBS and beyond (adjustments + monitoring)

- Initial Programming
 - Typically OFF medications 12+ hours (but bring them with you)
 - This is the longest session (1-2+ hours) + most exhausting for your partner
 - Bring snacks + water + drinks
 - Be prepared to drive and potentially stay the night if the drive is long.
- Remember: Results are not INSTANT
 - Often several programming sessions are needed to fine tune DBS
 - First session is getting the brain used to DBS + finding which contact (out of 10 possibilities) helps the most, with the least side effects.
 - Medication adjustments often take time after DBS
- After programming, medication will be taken (possibly at lower dosages)
 - Typically you will wait in the office until it kicks in to ensure no dyskinesia or other unwanted side effects occur- this may be 30-60 minutes.
- Patient will be exhausted from lack of sleep, programming and medications being off schedule
 - Let them rest, rest, rest.
- Often, there is a head CT scheduled this day + staples/stitches removed.

Caring after DBS and beyond (adjustments + monitoring)

- In-between Programming sessions
 - Document symptoms (on periods, off periods, dyskinesia, slow + stiff)
 - Note medication changes
 - Don't be afraid to send a message to your provider in-between visits
 - From home you can often adjust the device slightly up or down
 - Your provider can help ensure you adjust this correctly and walk you through this on this phone
- Follow-up Programming + Monitoring
 - MUCH shorter (30-60 minutes) + MUCH easier on the patient
 - Often, patients can take medications after the first or second visit (check with your provider)
 - Smaller adjustments
 - It is perfectly normal to take 3-6 visits to perfect DBS, particularly if it is bilateral
 - Eventually, you will see your provider every 3-6 months for visits + potential adjustments

Making the decision to have Duopa

- Why consider Duopa?
 - Medication is not lasting long enough → off time
 - Taking pills several times per day
 - Bothersome dyskinesia
 - Cognitive Concerns

I decided to get Duopa....now what?

- On + Off medication examination (“Levodopa Challenge”)
- Meet with the surgeon to discuss surgical risks + tube placement
- You will be notified Pre-operative testing (lab work, etc)
 - Surgery (implant the tube)
 - Initial Titration (attach the pump + decide on dosages)
 - Follow-up Programming

Caring after Duopa and beyond

- **What patients report is the worst about surgery-**
 - Anesthesia
- **After surgery**
 - Rest, rest, rest. Surgery takes time to recover from
 - Stay hydrated
 - Anesthesia can bring on extra fatigue in Parkinson's Disease patients
 - DO NOT touch incision as much as possible

Caring after Duopa and beyond (adjustments + monitoring)

- Initial Titration
 - Typically OFF medications 12+ hours (but bring them with you)
 - This is the longest session (1-6+ hours) + most exhausting
 - Bring snacks + water + drinks
 - Be prepared to drive and potentially stay the night if the drive is long.
- Remember: Results are not INSTANT
 - Often several titration sessions are needed to fine tune Duopa
 - First session is getting used to Duopa + finding which setting helps the most, with the least side effects.
 - Medication adjustments often take time after Duopa
- You may be exhausted from lack of sleep, programming and medications being off schedule
 - Rest, rest, rest.

Caring after Duopa and beyond (adjustments + monitoring)

- In-between Programming sessions
 - Document symptoms (on periods, off periods, dyskinesia, slow + stiff)
 - Don't be afraid to send a message to your provider in-between visits
 - From home you can often adjust the device slightly up or down
 - Your provider can help ensure you adjust this correctly and walk you through this on this phone
- Follow-up Programming + Monitoring
 - MUCH shorter (30-60 minutes) + MUCH easier on the patient
 - Smaller adjustments
 - It is perfectly normal to take 3-6 visits to perfect Duopa
 - Eventually, you will see your provider every 3-6 months for visits + potential adjustments

Thank You



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