



# An Off Switch for Depression?

## Lesson Plan

*playing god? in the classroom* is an educational resource designed to accompany the *playing god?* podcast, for use by instructors to introduce bioethics concepts and facilitate discussions of ethics among high school and above students. The *playing god? in the classroom* resources are free and available for non-commercial uses, with attribution to the Johns Hopkins Berman Institute of Bioethics. For other uses and more information, please contact [playinggod@jhu.edu](mailto:playinggod@jhu.edu).

This Lesson Plan accompanies Episode 7, Season 1 of *playing god?*

[bioethics.jhu.edu/lesson-plans](http://bioethics.jhu.edu/lesson-plans)

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## Summary

For years Brandy Ellis had tried everything to treat her depression, but nothing worked. Then, she heard about a new treatment, something called deep brain stimulation (DBS). This brain implant technology changed her life. But it also raises ethics questions. Because the technology has the potential to alter personalities and performance- where should society draw the line between treatment and enhancement? Are we giving such devices too much control over who we are by using them to alter fundamental human traits like our emotions?

Psychological conditions and brain disorders can affect our identity, changing who we are and how we make choices. This Lesson Plan will help students think about how we decide, and who gets to decide, when patients can and cannot make decisions about their health. Technologies that affect mood and personality also raise questions about when treatment crosses a line to become enhancement. Students will be asked to think about the definition of enhancement, identify examples, and take positions on their acceptability.

This Episode discusses suicide and severe depression. In Additional Resources, at the end of this Lesson Plan, we have listed national-level resources for individuals struggling with thoughts of suicide. Teachers may want to gather and provide additional local resources to students when discussing these issues.

# Vocabulary

The following are key terms used in the Episode and their definitions. The terms are marked in bold when they appear elsewhere in the Lesson Plan.

## Agency

The **capacity**, or ability to act with intention.

## Capacity

A patient's ability to understand and make decisions about their healthcare in a given situation.

→ Healthcare providers assess **capacity** to ensure that patients are in a position to give **informed consent** about their care.

## Dignity

An inherent worthiness of respect that all humans have, regardless of their **capacity** or other characteristics.

## Enhancement

A biomedical intervention that is used to improve human form or function beyond what is necessary to restore or sustain health.<sup>1</sup>

## Informed Consent

Ethical and legal standards require **informed consent** in medical decision-making.

**Informed consent** requires “a discussion of the nature of the procedure, the risks and benefits, the reasonable alternatives, and an assessment of the patient's understanding of these items.”<sup>2</sup>

# Discussion Guide

The following Assessment Questions can be used by instructors to evaluate student comprehension of Andrea's story and the bioethics concepts featured in the Podcast Episode. The Discussion Questions can prompt students to make claims and provide evidence and their reasoning. Student comprehension and views can be assessed before and after listening to the Episode and/or participating in the group activity.

## Assessment Questions

- Why did Brandy Ellis get an implant in her brain?
- How does deep brain stimulation (DBS) work? What are the risks and benefits of DBS?
- What concerns do bioethicists and others have about DBS and its effects on people's personalities and even their identities?

## Discussion Questions

Treatment or enhancement?

- Can you think of ways you've "**enhanced**" yourself (refer to the definition in Vocabulary)?
  - *For example, caffeine, exercise, vitamins, medications, eyeglasses/contacts, orthodontics, vaccines.*
- Which "**enhancements**" should be considered acceptable and which not? Why?
  - *For example, doping in sports, DBS for depression, stimulants to improve focus when studying or taking a test, using AI to write an essay.*

Cognitive capacity and informed consent

- How do we know when someone has **capacity**, and can make their own medical decisions?
- Should patients with limited **capacity** have a say in decisions affecting them?
  - *For example, people with depression, with dementia, with schizophrenia, and other conditions; children; people with intellectual disabilities.*
- What kinds of decisions might those populations be empowered to make for themselves?
  - *For example, where to live, getting a DBS implant, taking antibiotics.*

- What would you have done in the case of the Parkinson's patient who experienced significant behavior changes with DBS—which "version" of the patient would you have let decide whether to keep the device on?
- How might patients be given more **agency** in healthcare and their medical treatments? Make a list of ideas, drawing from the Episode.
  - How might patients be involved in policy decisions about who gets this treatment?
  - How might **informed consent** be used to maximize patient **agency** about their own health and healthcare?

# Sample Activities

The activities allow students to actively engage with the bioethics questions at the center of the Episode. Students will develop critical thinking skills and reason-based judgment by citing evidence from the Podcast and other sources. In bioethics, there often isn't a single "right" answer to a particular question; ideally, students will express and evaluate diverse viewpoints about complex, real-world problems.

## Large Group Activity: Would You Rather?

### Description:

The Episode discusses how **consent** isn't a "moment" but rather a continuous exchange or process. Use a fun game of "would you rather" as an ice-breaker or warm-up to engage students and get them thinking about their own decision making process and where they "draw the line" in a given scenario. The scenarios are not necessarily bioethics questions, but the exercise demonstrates how the process of **informed consent** can evolve by allowing new pieces of information to influence an individual's choice. It also helps students reflect on their own **agency** in a relatively low-stakes context.

### Instructions:

This activity should ideally be conducted at the beginning of class, before listening to the Episode. Clear a space in the middle of the classroom such that students can move around for this activity. If there are mobility restrictions, use a show of hands to indicate preference. Begin presenting the class with a series of questions and have them move to either side of the room to indicate their choice. For every successive round, add a new condition or caveat.

### Sample question series:

1. *Would you rather have the superpower of flight or the superpower of invisibility? If you pick flight, move to the left, and if you pick invisibility, move to the right.*
  - *For students on the left: What if you could only fly two feet off the ground and no higher? Move if your answer changes or stay where you are if this doesn't affect your choice.*
  - *For students on the right: What if the power of invisibility only worked for two minutes at a time? Move if your answer changes or stay where you are if this doesn't affect your choice.*
2. *Would you rather give up television shows or movies?*
  - *For students who would rather give up movies: What if you had to watch ads every three minutes during every tv show?*
  - *For students who would rather give up television shows: what if you could only watch movies at the theater?*

After every few rounds, “reset” by introducing a new scenario. Debrief with students after the exercise:

- How confident were you in your initial choice?
- If you changed sides, why? If not, why not?
- What is important to you about [*flying, watching movies*]? Did the conditions/caveats that were introduced go against these values?
- If applicable, why did you tolerate some conditions and not others? What was your “breaking point”?

## Small Group/Partner Activity: What Makes You You?

### Instructions:

Student A will write down three responses to the question “What makes you you?” Their partner, Student B, will do the same, answering the question “What makes Student A, Student A?” The two students will compare lists and discuss their responses. The two students will switch roles and generate a list for Student B. Students can discuss together and/or share with the class.

After this discussion, think about deep brain stimulation (DBS) and the ethics concerns about its effect on personality and identity. Do you think DBS alters the fundamental qualities of a person? Do you think DBS would alter the qualities that make you you? Why or why not?

Would these effects matter to you if you were receiving treatment for an illness? Would they matter to you if you were using them to enhance an ability, like focus or intelligence?

## Individual Activity: Research & Writing

ELA Writing Assignment: Participating in medical research requires **informed consent**. Researchers create a packet of information about the research study that they review with people who may want to participate, sometimes more than once. When the interested individual is well **informed** about the study and understands what it will be like for them to participate, then they can **consent** to join.

Create a **consent** form for a DBS procedure, like the one Brandi got. Make sure your form has all of the sections listed below. You can refer to the guide from the National Human Genome Research Institute. Keep in mind that this guide uses genomic research as an example- DBS is not genomic research, it is an experimental surgery.

- Description of the research
  - What is the purpose of this study? What is the hypothesis being tested?
  - Who is eligible to participate?
  - How will researchers decide who has the **capacity** to **consent** to join this study?
  - What data will be collected?
  - Detail what will happen to participants over the course of the study.
- Risks
  - What are the risks to participants' physical and mental health?
  - Is it possible that participation will affect other aspects of participants' lives?
  - How can participant privacy be protected? What level of privacy can they expect?
  - What steps can researchers take to minimize these risks?
- Benefits
  - What are the potential benefits to the participant?
  - What are the potential benefits to society?
  - Will the participant receive anything for their participation?
- Participation
  - What happens if a participant changes their mind?
  - What happens if a participant is harmed during the study?
  - What happens if a participant is harmed during the study?
  - What happens once the study ends?

[Required Elements of the Consent Form](#), National Human Genome Research Institute, 2022.



# Additional Resources

Further readings about key topics covered in the Episode.

If you or someone you know is struggling with thoughts of suicide, there are resources that can help you. In the US, dial 988 to reach the Suicide & Crisis lifeline for free 24/7 confidential support from a trained listener. Or text SAVE to 741741 to reach a trained helper at the Crisis Text Line.

## More About Deep Brain Stimulation

[A ‘Pacemaker for the Brain’: No Treatment Helped Her Depression — Until This](#), The New York Times, 2021.

[Deep Brain Stimulation Treatment Resistant Depression](#), Healthy Minds (YouTube), 2023.

[Ethical issues in deep brain stimulation](#), Frontiers in Integrative Neuroscience, 2011.

[Deep Brain Stimulation, Self and Relational Autonomy](#), Neuroethics, 2018.

## Careers Mentioned

### Researcher:

Patricio Riva Posse, MD (neurology,  
psychiatry)

Karen Rommelfanger, PhD  
(neuroscience)

### Bioethicist:

Karen Rommelfanger, PhD

### Surgeon

### Policymaker

# About This Lesson Plan

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*The Podcast Episode and this Lesson Plan are not designed to answer patient-specific clinical, professional, legal, or ethical questions. Information contained herein is not intended as a substitute for professional consultation.*

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<sup>1</sup> Juengst E, Moseley D. "Human Enhancement." 2025. In The Stanford Encyclopedia of Philosophy, Zalta E, Nodelman U (eds.).

<sup>2</sup> Shah P, Thornton I, Turrin D, Hipskind JE. "Informed Consent." 2023 Jun 5. In: StatPearls. Treasure Island (FL): StatPearls Publishing.