

Summary

A dialogue based lesson about the real issues in stem cell research. Can induced pluripotent stem (iPS) cells – ‘hot stuff’ for researchers as it’s one of the latest major breakthroughs in stem cell science – be used to treat disease like Parkinson’s?

Students are asked to read two news articles and vote if a specific clinical trial mentioned in one of the articles should go ahead or not. After a presentation and two short videos on stem cells and Parkinson’s, students are asked to vote again.

Quick facts

Age group	16 - 19
Group size	Up to 35
Duration	60 min
Technical requirements	Powerpoint, internet connection for showing short videos.
Required materials	<ul style="list-style-type: none"> - Copies of the 2 news stories for all students - 3 colour coded cards for voting ‘yes, no, or not sure’ for each student. - Internet or copy of the Michael J Fox story: www.youtube.com/watch?v=ECKPVTZIfP8 - Powerpoint presentation ‘Introducing stem cells’ on www.eurostemcell.org - Internet or copy of the Stem Cell Story film on www.eurostemcell.org/films
Teacher role	<ul style="list-style-type: none"> - Introducing the activity - Explaining science of stem cells and iPS cells using the powerpoint presentation and video - Explaining patient perspective using Michael J Fox video - Mediating questions, teacher guided discussion and voting of students

Preparation

- Print copies of the 2 news stories
- Make 3 coloured voting cards for each student
- Check if videos and powerpoint presentation are working
- If possible, organise a stem cell scientist, clinician or patient representative to share their opinion if the trial should go ahead or not.

Lesson plan and timings

	Part one (25 min)	Minutes
1	<p>Ask students to read</p> <ul style="list-style-type: none"> A fictional news story about an application for a clinical trial to treat Parkinson's disease using iPS derived dopamine producing cells An opinion article written in The Times suggesting the medical potential of iPS cells is exaggerated 	10
2	Introduce format: a) you will see a video of a Parkinson's patient, b) you'll be asked to vote, c) after we've looked at stem cells in more detail, d) you'll be asked to vote again.	2
3	Explain what Parkinson's disease is and show the video of Michael J Fox.	8
4	<p>Ask students to use their coloured cards to vote on three statements, based on the limited info they have. Keep a record of class results, but don't discuss outcome yet.</p> <p>Statements:</p> <ol style="list-style-type: none"> I think stem cells are dangerous for patients – yes, no, not sure I think embryonic stem cells have more potential to treat disease than iPS cells – yes, no, not sure I am in favour of a clinical trial using iPS cells to treat Parkinson's disease – yes, no, not sure 	5
	Part two (25 min)	
5	<p>Introduce stem cells using powerpoint presentation.</p> <ul style="list-style-type: none"> 5 min intro film on stem cells (excerpt from a Stem Cell Story film 00:00 – 04:32) recap: properties of stem cells: self renewal and differentiation different types of stem cells: embryonic stem cells / tissue (adult) stem cells discovery in 2006/2007: induced pluripotent stem cells technique why scientists are so excited about iPS cells (personalised treatments) if arranged: a patient representative to tell their own story and respond to presentation (allow for extra time) 	20
6	<p>Questions & sum-up</p> <p>Summarize points made and encourage students to ask questions.</p>	5
	Part three (10 min)	
7	<p>Students vote again.</p> <p>Statements:</p> <ol style="list-style-type: none"> I think stem cells are dangerous for patients – yes, no, not sure I think embryonic stem cells have more potential to treat disease than iPS cells – yes, no, not sure I am in favour of a clinical trial using iPS cells to treat Parkinson's disease – yes, no, not sure 	5
8	Teacher guided discussion: have students voted differently? If so, ask individual students what changed their minds.	5