

"Why Stem Cells" Claims *THIS DOCUMENT IS TO BE USED AS A REFERENCE GUIDE. The "why" it is significant and "how" it should be used is outlined for each claim. Citations are available as footnotes.

Regenerative Medicine

- 1) 1 million patients have already used stem cells in treatment¹ and another million see value in current and future treatments by choosing to save their newborn's stem cells for family use²
 - Why: Displays use and interest of hematopoietic stem cells, from all stem cell sources (bone marrow, peripheral blood and cord blood) on a larger scale
 - How: Use to introduce current medical treatments and to preface what stem cells do
- 2) Regenerative medicine is a new approach to treatment. It's all about establishing normal function in the body through exciting areas such as tissue engineering and cell-based therapies, which stem cells play a vital role in³.
 - Why: Highlights stem cell uses from all sources in regenerative medicine and the new potential uses as they fall under the field of regenerative medicine
 - How: Use to define what regenerative medicine is and as a transition to introduce the topic
- 3) The US Department of Health and Human Services has identified the value of this new approach and states that "regenerative medicine is a rapidly growing field of biomedicine that will revolutionize health care treatment."⁴
 - Why: Third party reference further validates the potential that the field of regenerative medicine holds
 - How: Use to build case that regenerative medicine has the potential to fill a currently unmet medical need
- 4) It's estimated that 1 in 3 people in the US may benefit from a regenerative therapy in their lifetime.⁵
 - Why: Indicates potential for regenerative medicine to play an important role in healthcare in the US
 - How: Use when reviewing regenerative medicine. Estimate includes all potential regenerative medicine based therapies and may not be limited to stem cell applications. Use quote as is, "stem cells" are not part of the quote.
- 5) More than 17,000 patients have enrolled in regenerative medicine clinical trials worldwide.
 - Why: Shows emerging applications in regenerative medicine.⁶
 - How: Use to provide support to the idea that regenerative medicine is here and not some far off theoretical approach to medicine
- 6) In the US alone regenerative medicine treatments could save \$250 billion a year in terms of the direct costs associated just with late-stage Parkinson's disease, new cases of spinal-cord injury, heart failure, stroke, and insulin-dependent diabetes.⁷
 - Why: Indicates potential savings in direct patient health care costs associated with the development of treatments in the indicated conditions (all of which are prevalent and chronic conditions)
 - How: Use to show potential monetary value of regenerative medicine based approaches
- 7) In the US, clinical trials are underway using newborn stem cells as potential treatments for autism, which affects 1 in 88 children, cerebral palsy, which affects 1 in 303 children, and traumatic brain injuries which in children alone result in almost half a million emergency department visits annually.⁸
 - Why: Provides statistics associated with conditions in which cord blood is being evaluated as a potential therapeutic option.

- How: Use for the ongoing story of what was happening with stem cells 5 years ago, what's happening today, and what we anticipate will happen 5 years from now
- 8) More than 60,000 hematopoietic stem cell transplants take place worldwide annually with increasing frequency.⁹
- Why: Builds case for historical clinical data with stem cells (all sources, including bone marrow, peripheral blood and cord blood) in transplant medicine.
 - How: Shows the number of stem cell treatments is increasing due to modifications in treatment protocols. Stem cell science continues to develop. Please note this is specific to transplant medicine, NOT regenerative medicine. Use appropriately.

Newborn Stem Cells

- 9) There have been over 40 years of patient treatments in transplant medicine using these stem cells from bone marrow and over 20 years of patient treatments using these stem cells from cord blood.
- Why: Provides historical perspective of stem cell transplants
 - How: Used after defining what stem cells are and as transition into newborn stem cells
- 10) More than 30,000 cord blood stem cell transplants have been performed worldwide in the treatment of more than 80 diseases, including various cancers, blood, immune, and metabolic disorders.¹⁰
- Why: Provides number of cord blood hematopoietic stem cell transplants performed worldwide to date
 - How: Discuss cord blood as preferred stem cell source for transplant medicine in pediatric setting
- 11) There are currently more than 200 clinical trials using cord blood to advance treatment options in transplant medicine and emerging applications in regenerative medicine.¹¹
- Why: Amount of interest in optimizing cord blood stem cell applications in transplant medicine and evaluating their use in regenerative medicine is high
 - How: Can be used after explaining current transplant medicine treatments and clinical trials in regenerative medicine and explain that science advances daily. Most of the 200 clinical trials are in transplant medicine with a smaller proportion of the clinical trials evaluating cord blood in regenerative medicine applications.
- 12) Co-founder and director of the largest public cord blood facility, Dr. Rubenstein, says that “umbilical cord blood is even more useful than bone marrow in transplant medicine, because its stem cells are 'more tolerant.’” Cord blood stem cells also survive fewer bacterial and viral assaults, and are less likely to counterattack with graft-versus-host disease.¹²
- Why: Shows cord blood as having advantages over other sources of stem cells in transplant medicine
 - How: Use to support younger is better
- 13) While we are aware that certain religions do not support embryonic stem cell medicine, we are not aware of any religions taking issue with cord blood stem cell medicine and, in fact, the Catholic church has made public statements favoring stem cells derived from cord blood.¹³
- Why: Shows difference between embryonic and newborn stem cells and the Catholic church openly supports cord blood stem cell use

- How: Use when discussing embryonic misconceptions or religion

Public Option

14) The Institute of Medicine recommends that all expecting families be provided with a balanced perspective on all cord blood options.¹⁴ 27 states, representing roughly 80% of US births, have enacted legislation promoting education for expecting parents.¹⁵

- Why: Third party support for the value of cord blood stem cells in transplant medicine.
- How: Use to introduce public donation and explain CBR provides accurate information about options

15) According to an article published in the Journal of Assisted Reproduction and Genetics, only 25% of all donated samples meet the criteria for acceptance, such as hospital location, recent piercings/tattoos, maternal health history, a 60-day advance notice with the processing facility, and unit criteria determined by the individual public banks¹⁶

- Why: Provides clear information on public donations, with factors that influence whether a unit is stored or discarded by a public bank.
- How: Use to present some of the limitations of public donation after highlighting public donation is a good thing; overcome the misconception that families have guaranteed access to cord blood that is donated to a public bank.

Newborn Possibilities Program

16) To date, the Newborn Possibilities Program has processed and saved the cord blood stem cells of nearly 5,000 children.¹⁷ CBR has genetic counselors available to discuss your family's medical history and to answer questions about how newborn stem cells might be applicable to your family. We are also actively training physicians around the country to help identify babies and family members who may qualify for this program.

- Why: Newborn Possibilities Program serves as a catalyst for driving newborn stem cell applications; shows the size of the program; introduces ongoing and increased presence of genetic counselors as a resource for CBR clients.
- How: Use after introducing program to position CBR as leader in advancing treatment options

Family Storage

17) Over 1 million children have their own cord blood stem cells stored with a family storage facility and almost half of them are stored with CBR.¹⁸

- Why: Shows the number of people that see the value of storing newborn stem cells
- How: Use to introduce family storage option & transition into "Why CBR"

Citations

1. <http://www.wbmt.org>. "Media Fact Sheet: 1 Million Blood Stem Cell Transplants Worldwide" Accessed 04/02/2013.
2. Alliance for Regenerative Medicine. 2013 Annual Industry Report.
3. Mason, Brindley, Culme-Seymour, Davie. Cell therapy industry: billion dollar global business with unlimited potential. *Regen Med*. 2011;6(3):265-272.
4. U.S. Department of Health and Human Services. 2020: A New Vision. A Future for Regenerative Medicine. 2006.
5. Harris DT. *Expert Opin. Biol. Ther.* 2007 Sep;7(9):1311-22.
6. Alliance for Regenerative Medicine. 2012 Annual Industry Report.
7. West E. "Regenerative Medicine: The Need for a National Strategy". *Pharmaceutical Technology*. 2011;35(7):133-134.
8. CP: <http://www.cdc.gov/ncbddd/cp/index.html>. Hearing Loss: Niskar, AS, et al. Prevalence of hearing loss among children 6 to 19 years of age: the Third National Health and Nutrition Examination Survey. *JAMA* 279, 1071-1075 (1998). TBI: Langlois J, Rutland-Brown W, Thomas K. Traumatic brain injury in the United States: emergency department visits, hospitalizations, and deaths. Atlanta (GA): Centers for Disease Control and Prevention, Nation Center for Injury Prevention and Control;2004. Type 1 Diabetets. NIDDK. National Diabetes Statistics, 2007. Available at <http://diabetes.niddk.nih.gov/dm/pubs/statistics/#youngpeople>. Accessed December 3, 2008.
9. Gratwohl A, Niederwieser D. History of hematopoietic stem cell transplantation: evolution and perspectives. *Curr Probl Dermatol*. 2012;43:81-90.
10. Allison M, *Nature Biotechnology* 2012;30(4):304
11. Data on file.
12. http://www.nytimes.com/2012/05/12/health/a-match-and-a-mission-helping-blacks-battle-cancer.html?_r=1&hp Accessed April 30, 2013.
13. <http://www.usccb.org/issues-and-action/human-life-and-dignity/stem-cell-research/catholic-support-for-ethically-acceptable-stem-cell-research.cfm>. Accessed 04.02.2013
14. Cord Blood: Establishing a National Hematopoietic Stem Cell Bank Program. Washington, DC: The National Academies Press, 2005.
15. Based on 2010 Census data. States with cord blood education legislation on file.
16. Butler M.G. and Menitove J.E. Umbilical cord blood banking: an update. *J. Assist Reprod Genet.* 2011. 2011 Aug;28(8):669-76 Data on file with SciMed
17. Data on file.
18. Data on file.