

Lesson 12 Reproductive Technologies

I. Introduction:

On January 26, 2009 a team of forty six medical personnel at the Kaiser Permanente Hospital in Bellflower California successfully delivered eight babies. Only the second full set of octuplets born in alive in the United States, they surpassed the previous set with all eight surviving for more than a week. During the press conference the identity of the mother was concealed, and very little was known about her. However, in the days following a media frenzy ensued as the press uncovered her identity, lifestyle, as well as how she came to conceive eight babies.

Nadya Suleman already the mother of six children lived with her mother in a small three bedroom house in Whittier California. In addition, state records have shown that she has received \$165,000 in disability payments for an on the job back injury between the years of 2002 and 2008.¹

Now known as the “Octo-mom,” Suleman conceived the children by in vitro fertilization through sperm donated by David Solomon, a former boyfriend. According to Suleman, upon realizing that she simply wanted him to father her children, she ended the relationship and persuaded Solomon to donate his sperm.

1. In your view, why has there been such a public backlash against the “Octo-mom”? In the public’s view what should she have done?
2. How can you argue for the foolishness of Suleman’s actions?

Through in-vitro fertilization Doctor Michael Kamrava implanted the remaining six embryos from her previous IVF treatments. Two of the embryos split resulting in eight children. Aware of the potential dangers of carrying so many children, doctors offered Suleman a selective abortion which she declined.

3. From the above information why did Suleman seek to carry the remaining six embryos?
4. How can you argue for the wisdom of Suleman’s actions?

¹ <http://www.npr.org/templates/story/story.php?storyId=100341255>

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The case of the Octo-mom has placed reproductive technologies on the forefront of our cultural consciousness. Her “pro-life” stance with regards to her embryos highlights some of the ethical concerns which accompany reproductive technologies. For instance, should single mothers be inseminated? What potential risks does IVF carry for the mothers and the babies? What should be done with the frozen embryos? In this study we will look at the ethics of reproductive technologies so that we can have a biblical grid for answering such difficult questions.

II. Artificial Insemination:**A. Types of Artificial Insemination:**

The procedure is relatively simple. Sperm is collected then deposited through a syringe near a woman’s cervix. If all goes well, the woman conceives and delivers a healthy baby. There are two types of artificial insemination:

1. AID: Insemination using a donor’s sperm.
2. AIH: Insemination using a husband’s sperm:

There are obvious differences between the two and the bulk of our discussion will focus on AID.

B. The Benefits of Artificial Insemination:

1. If a father has a low sperm count, more sperm can be collected and then deposited to increase the possibility of fertilization (AIH).
2. If the husband is infertile the use of donor sperm is cheaper and easier than adoption (AID).
3. You can introduce superior traits into the baby’s genetics (AID).
4. What are your assessments of the above benefits?

C. Practical Concerns:

1. Legally, AID can open a Pandora’s Box regarding the legal ties to the biological father. The Uniform Parentage Act holds that if a husband consents to his use of AID, then he will be the legal father. However, it is questionable if this will hold up in a court of law.
2. Another legal issue would be the doctor’s or the sperm bank’s liability if the baby is born with a hereditary genetic defect.

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3. There are some concerns regarding whether or not the husband can develop a bond with a child who is not genetically his.
4. If the husband knows that his “daughter” is not his biological descendent he may be more prone to consider incest.
5. Unintentional incest may occur since doctors routinely use the same sperm donor to conceive children. This coupled with the fact that the customers live in the same geographical area increases the possibility of siblings unwittingly dating and marrying each other.
6. This technology allows lesbian couples to conceive and bear children.
7. This technology can lead to single parent households.
8. This technology obscures the genetic past of the child. Research has shown that doctors do an extremely poor job of record keeping, thus it would be difficult to track the biological father. This comes into play when attempting to discern whether or not the child has a genetically controlled disease.²

D. Morality Issues:

1. *Does this technology allow men and women to “play God”?* When we consult with natural law, we see that artificial insemination tampers with the natural order of sexual intimacy and procreation. Surely God can open the womb if He sees fit.
 - How would you respond to this objection? (Hint: recall the wisdom in appealing to natural law when shaping ethical conclusions)
2. *Does AID constitute adultery?* AID removes procreation from the marriage bond and introduces a third party into the mix.
 - Do you believe the AID constitutes adultery why or why not? Consider the following passage:

²Feinberg, John S. ; Feinberg, Paul D. ; Huxley, Aldous: *Ethics for a Brave New World*. Wheaton, Ill. : Crossway Books, 1996, c1993, S. 213

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Matthew 5:27-28 “You have heard that it was said, ‘YOU SHALL NOT COMMIT ADULTERY’; ²⁸ but I say to you that everyone who looks at a woman with lust for her has already committed adultery with her in his heart.

3. *Does AIH/AID violate God’s design for parenthood?* It is argued that God designed for children to be conceived through the love and intimacy shared between the husband and wife during the act of sexual union. AID and AIH sever the act of procreation from sexual union.

- a. What assumptions does this view make about God’s design for parenthood?

This argument makes several assumptions about parenthood. First of all, children are a blessing to those individuals who are blessed with the ability to have children. Secondly, those who were not blessed with children were not intended to have children. Thirdly, the person bearing the child is naturally the best parent. And finally the biological bond brings the parents and child together.³

- b. Can you think of any biblical examples which rebuff this thesis (*Matt. 1:18-25*)?

- c. What are the implications of this theory for adoption?

- d. In your view what makes a parent a parent? Does it go beyond genetics? Why or why not?

4. *Does this reduce the donor to a “sperm salesman”?* In other words, the donor bears no responsibility for his action. He remains hidden from the mother and child and has no concern for what is done with his sperm. This is purely a commercial matter. He has a commodity and meets a demand with a price.

“One young graduate student at UCLA, for example, earned \$50 every week by stopping by at the Southern California Cryobank twice a week in order to masturbate and sell two samples of his sperm. Says “Gregg” (not

³Feinberg, John S. ; Feinberg, Paul D. ; Huxley, Aldous: *Ethics for a Brave New World*. Wheaton, Ill. : Crossway Books, 1996, c1993, S. 215

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his real name), ‘Without sounding too conceited, I’m healthy. I’m intelligent. I have good genes, and I’d like to pass them along.’”⁴

- a. What’s your assessment of this objection?
- b. Besides money, what might motivate other sperm donors?
- c. What does a “benevolent motive” do to this argument and why?

E. Assessment:

In ethics it is important to distinguish between what is permissible and what is prudent. In some cases, AID is neither prudent nor permissible. A mixture of motives (i.e. a selfish desire to have kids or the greedy desires of the donor) and circumstances (i.e. a lesbian relationship) make it clearly wrong. Yet, just because it is wrong in many or most circumstances does not make the act absolutely wrong. In fact, AIH can be extremely helpful for couples struggling to have kids. Additionally, there may be some rare circumstances where AID is a benevolent act. For instance, a man may *donate* his sperm so that an infertile *married* couple can conceive and bear children. Another benevolent reason may be that the donor gives his sperm so that the husband can father a child without the risk of passing along a genetic disease to his offspring. Please do not take this as a ringing endorsement of AID. There are sufficient practical factors which would put AID way down on the list when considering their options for having a child.

III. In Vitro Fertilization:

On July 25th, 1978 Louise Joy Brown was brought into the world to her proud parents John and Lesley Brown. On account of Lesley’s blocked fallopian tubes the couple had tried unsuccessfully for nine years to conceive a child of their own. Their fortunes changed when Lesley underwent a procedure performed by Patrick Steptoe and Robert Edwards to conceive the first “test tube” baby. Since then, in vitro fertilization has opened up numerous possibilities to the one in six couples who struggle with infertility. In fact in 2006, 54,656 children were successfully delivered in the United States through this technology (1.3% of all births).⁵

⁴ Jefferson Davis *Evangelical Ethics* 3rd Ed. Phillipsburg NJ, P and R Publishing, 2004, p. 70.

⁵ <http://www.cdc.gov/ART/>

A. The IVF procedure:

What exactly is this medical procedure? IVF may be performed using the gametes of both wife and husband, with donor semen or donor ova, or with donor embryo. In preparation for collecting the eggs, a woman is given hormones for five to seven days to stimulate growth of the eggs in the follicles of her ovaries. Another hormone controls the exact time (thirty-two hours later) when the eggs are ready for removal. At that time a small incision in the woman’s navel is made, and a laparoscope (a long, miniature microscope with a light which allows the doctor to view the woman’s internal organs and the collection of eggs) is inserted. Through another incision forceps are used to hold the ovary in place, and a hollow needle is inserted to suck the egg from its follicle. If the egg is fully ripe and ejected before removal, or if it is not quite mature enough, it cannot be used. Once removed, the egg in follicular fluid is placed in a Petri dish with a nutrient solution. After maturing for another five or six hours, it is exposed to about one hundred thousand sperm collected from the husband by masturbation. To increase the likelihood of success, several eggs are usually taken and fertilized in this fashion. The eggs develop into four, eight or sixteen cell embryos. At whatever stage the doctor considers most advantageous, the embryos are transferred in a tube or catheter through the cervix into the uterus. If implantation takes place, the baby begins to develop in a normal manner. In order to maximize chances that at least one embryo will implant, the woman should remain in bed for about eighteen hours.⁶

B. Practical Concerns:

1. Most insurance companies do not cover this procedure. Therefore this can be extremely expensive.
2. More than one egg is taken and fertilized. The ones with the best chance for success are implanted, and then the other ones are cryopreserved (frozen) in case the first attempt is unsuccessful. Currently, 500,000 frozen embryos exist in the United States. This raises legal questions over embryo ownership as well as the morality of what to do with the unused embryos.
3. This technology can be used to give gay couples, single mothers, etc. children.

C. Morality Issues:

1. *Does IVF technology allow men and women to “play God”?* This issue is addressed in the previous section.

⁶Feinberg, John S. ; Feinberg, Paul D. ; Huxley, Aldous: *Ethics for a Brave New World*. Wheaton, Ill. : Crossway Books, 1996, c1993, S. 224

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2. *Does IVF violate God's design for parenthood?* This issue is addressed in the previous section.
3. *Does IVF "waste" embryos?* Some doctors claim that only 30% of natural fertilization results in a baby. Thus, proponents of IVF contend that when a doctor sorts through the embryos he or she does what the female body does naturally when it spontaneously aborts the fetus.
 - a. Biblically, how should we regard the embryo?

Psalm 139:13-16 For You formed my inward parts; You wove me in my mother's womb. ¹⁴ I will give thanks to You, for I am fearfully and wonderfully made; Wonderful are Your works, And my soul knows it very well. ¹⁵ My frame was not hidden from You, When I was made in secret, And skillfully wrought in the depths of the earth; ¹⁶ Your eyes have seen my unformed substance; And in Your book were all written The days that were ordained for me, When as yet there was not one of them.

Psalm 51:5 Behold, I was brought forth in iniquity, And in sin my mother conceived me.

Luke 1:44 "For behold, when the sound of your greeting reached my ears, the baby leaped in my womb for joy.

- b. What is the difference between spontaneous abortion, and the embryo selection associated with IVF? How does this difference shape our ethical discussion?
 - c. If there is a good possibility that a non-life saving medical procedure will cause a death what is our moral obligation?
4. *The fate of the embryos.*

The embryos have five possible fates:

- a. It may succeed in a live child birth.
- b. It may be implanted and then "naturally" aborted.
- c. It may be frozen for a second attempt.
- d. It may be used for experimentation (i.e. embryonic stem cell research)
- e. Scientists may try to develop the embryo beyond the blastocyst phase perhaps through some sort of artificial placenta.

- What is the morality of each of the above options?

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5. *IVF poses too much risk to the embryo/baby even if successful.* Doctors handle the child in its most fragile state, and there is great potential for harm.
6. *IVF subjects embryos/babies to medical experiments involuntarily.* IVF treatment is still in its experimental state with a relatively low success rate. In addition, every time IVF is performed there is an experiment to see if it will “work” with any given embryo/baby. This treats the embryo/baby as an object to be manipulated and not a subject. Since the embryo/baby cannot give consent it is morally wrong to subject it to such a risky procedure.
7. *IVF runs contrary to traditional medicine’s vow to heal.* In this case, the doctors make life, but when they implant the embryos (sometimes as many as six) they count on or even hope that all of them do not make it. Infertility is not a disease, and having a baby is not a fundamental right. It is morally questionable to create life, and then dispose of it.
8. In your view, what are the strongest arguments and why?
9. What would be the morality of only planting two eggs – as opposed to six – through IVF?

D. Assessment:

In my opinion IVF carries too much risk to justify it as a legitimate option. The procedure itself creates life and in most cases destroys it so that one life can live. Additionally, the procedure itself puts the embryo/baby at significant risk in that the experiment will have a questionable outcome resulting in the life or death of the child.

IV. Ministering to the Infertile:**A. The Reality:**

Officially diagnosed as failure to conceive and bring forth a child after a year of contraceptive free sex - it is estimated that one in six Americans of child bearing age struggle with infertility. For those of us with quivers full of children we may find it difficult to empathize with an infertile couple’s pain. Yet, Christian love calls us to weep with those who weep.

One author shares the following insight:

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A couple sat to eat lunch with me after I had spoken at an infertility symposium. As we began to talk, I asked the wife, “When you grieve over your infertility, what is your greatest loss?”

She didn’t have to think about her answer. “It’s the loss of a dream; my heart’s desire is to have my husband’s child and raise it together.”

I turned to the husband and addressed him. “And you?”

He looked at her, then back at me. After hesitating a moment, he spoke to her gently, and stroked her arm, “Don’t take this wrong, honey, but...” Then he looked at me. “It’s the loss of my wife—she is not the same woman I married. Infertility is really taking a toll on us.”⁷

1. One doctor shares “The depression and anxiety experienced by infertile women are equivalent to that in women suffering terminal illness.”⁸ In your view, why does infertility take such a toll on couples?

2. How can we be sensitive to those who struggle with infertility?

B. A Biblical Examples:

Proverbs 30:16 Sheol, and the barren womb, Earth that is never satisfied with water, And fire that never says, “Enough.”

Genesis 16:2 So Sarai said to Abram, “Now behold, the LORD has prevented me from bearing children. Please go in to my maid; perhaps I will obtain children through her.” And Abram listened to the voice of Sarai.

Genesis 30:1-2 Now when Rachel saw that she bore Jacob no children, she became jealous of her sister; and she said to Jacob, “Give me children, or else I die.”² Then Jacob’s anger burned against Rachel, and he said, “Am I in the place of God, who has withheld from you the fruit of the womb?”

1 Samuel 1:1-7 Now there was a certain man from Ramathaim-zophim from the hill country of Ephraim, and his name was Elkanah the son of Jeroham, the son of Elihu, the son of Tohu, the son of Zuph, an Ephraimite.² He had two wives: the name of one was Hannah and the name of the other Peninnah; and Peninnah had children, but

⁷ Sandra Glahn, “A Heart’s Desire: Encouragement For Couples Facing Infertility - http://www.bible.org/page.php?page_id=4669

⁸ Ibid.

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Hannah had no children. . . .⁵ but to Hannah he would give a double portion, for he loved Hannah, but the LORD had closed her womb. ⁶ Her rival, however, would provoke her bitterly to irritate her, because the LORD had closed her womb. ⁷ It happened year after year, as often as she went up to the house of the LORD, she would provoke her; so she wept and would not eat.

1. In the above three cases who was responsible for the aspiring mothers' plight?
2. In the case of Rachel and Hannah what toll did infertility take on their relationships? Why?

C. Loving Prescriptions:

1. **Understand that it is the Lord who opens and closes the womb.** The fact that your womb is currently closed fits into God's overall plan for good. Look to the barren women of the Old Testament for hope. Sarai bore the promised child to Abraham. Rachel eventually gave birth to Joseph who would go on to deliver his family from a deadly famine. And Hannah bore Samuel, one of the great prophets of Israel. In fact, her barren womb led her to dedicate her would be son to Yahweh's service. However, even if the Lord does not give you a child remember **Romans 8:28**:

And we know that God causes all things to work together for good to those who love God, to those who are called according to His purpose.

2. **Consider Medical Intervention:** Judicious use of technology comports with God's call to bring the earth under our dominion. Surgeries, injections, artificial insemination, etc. have often assisted in helping the childless welcome children into the world. But note any medical intervention must accord within the ethical bounds of Scripture.
3. **Consider adoption or embryo adoption.** Adoption helps illustrate a wonderful truth with regards to our own status as adopted sons and daughters of our Heavenly Father. Embryonic adoption – aka snowflake adoptions - in which a couple adopts frozen embryos from couples with no intention to use them, saves lives and allows the couple to go through the “pregnancy experience.”
4. **Remember that children are a blessing, but not the greatest blessing.** Knowing the God of the universe through His Son supersedes all earthly graces. It's good to want good things, but remember blessings make lousy

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gods. Do not allow your quest for children to dominate your life and darken your vision of God. Elkanah was on the right track when he told his barren wife:

1 Samuel 1:8 Then Elkanah her husband said to her, "Hannah, why do you weep and why do you not eat and why is your heart sad? Am I not better to you than ten sons?"

While Elkanah may be better than ten sons, our glorious God is worth more than ten thousand sons.

V. Conclusion:

Reproductive technology in general can be a wonderful blessing to those longing to build a family. Yet, it should be noted that Artificial Insemination using a donor as well as IVF treatments are fraught with peril. While it is possible that AID can conceivably be permissible it should not be the first choice for the infertile couple. Regarding IVF the experimental nature of each procedure, the willful creation of life as well as the risk subjected to that life makes it morally dubious. Children are a blessing from the Lord but we must never allow our quest to make life lead us to take life.

Appendix:

Stem Cell Research:

I. A History of Stem Cell Research:

Embryonic Stem Cell research piqued the public consciousness when George W. Bush agonized over whether or not to allocate federal funding for its development. On one hand such research had the potential to rapidly advance the medical arts; promising ways to regenerate 210 different kinds of tissue. On the other hand, such research would terminate human life which begins at conception. After much soul searching and contemplation, the Bush administration allocated federal funding for embryonic stem cell research for “existing lines” from previously destroyed embryos. In addition, his administration did not seek to outlaw embryonic destructive private research.

Originally this policy was well received as many believed it carefully balanced science and ethics. But scientists and Democrats saw this as an opportunity to manufacture a winning issue. For the scientists, this was an opportunity to challenge the ethical constraints which restrict research. In addition, the added publicity would help them to corral the all important grant money necessary for laboratory survival. For the Democrats this became a humanitarian cause. They portrayed themselves as the party of scientific progress who heroically seek to offer hope to millions who could be helped by this technology.

With the celebrity assistance of Michael J. Fox, Brad Pitt, and Christopher Reeve the Democrats excoriated the Bush Administration for impeding scientific progress which could heal human lives. The claims of stem cell research were nothing short of sensational, with John Edwards the Vice Presidential candidate claiming “when John Kerry is president, people like Christopher Reeve are going to walk.”⁹

This political propaganda was a far cry from the scientific reality. The “personal repair kits” promised by Ron Reagan Jr. now seem far less plausible. In addition, the therapeutic promise of embryonic stem cell research was still fraught with moral and practical concerns.

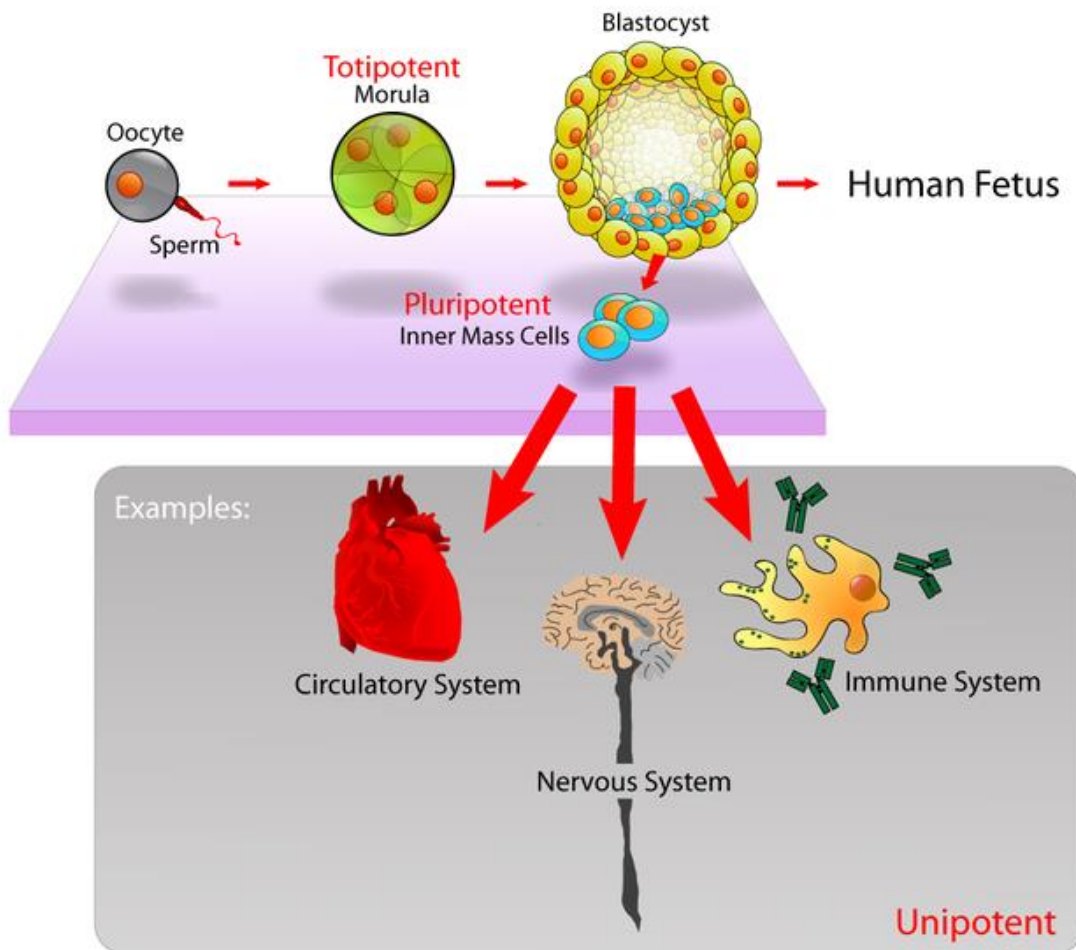
In 2007, a Japanese scientist - Shinya Yamaka - created a method of developing pluripotent cells which completely circumvented the ethical quandary proposed by embryonic stem cell research. His research was confirmed by two independent teams, and with a sudden thud the stem cell debate ceased.

⁹ Yuval Levin, Obama’s False Choice: What the president could stand to learn from his predecessor on science policy.
<http://article.nationalreview.com/print/?q=MjFkYTE5MTk2NzQyYzE5MWM0MjE5NjQxOGM1ZWYxYjg=>

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Yet on March 9, 2009 President Barack Obama issued an executive order expanding federal funding for embryonic destructive research.

- A. Why is embryonic stem cell research such a hotly contested issue?
- B. How has the mix of politics and science confused the issue?

II. Summary of Stem Cells and Their Potential:

When an egg is fertilized it becomes a single embryo cell which becomes two, then four, then eight. Each of these early cells is identical to the others. There are no eye cells, no heart cells, no bone cells at this point. But soon cells begin to differentiate. Until they do, each embryonic cell has the potential to be any kind of cell.

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These stem cells in a human embryo have the capacity of developing into all 210 different kinds of tissue. They could become cells that heal broken nerve cells, thus offering the possibility of treating Parkinson's disease. They could be used in internal organs to treat diabetes or heart failure. In essence they hold the key to life itself.

A single fertilized egg is *totipotent*, meaning that its potential is total. When it first divides, it produces two identical totipotent cells. This means that either of the cells has the potential of developing into a fetus. Approximately four days after fertilization these totipotent cells begin to specialize and form a hollow sphere of cells known as a blastocyst. The outer layers begin to form the placenta, while the inner cells form every type of cell found in the human body. These inner cells are called *pluripotent*, meaning that they can give rise to many cells but not all types of cells.

The pluripotent stem cells go through a further process of specialization. For example they form blood stem cells, which can give rise to red blood cells, white blood cells, and platelets. A skin stem cell can give rise to various kinds of skin cells. These more specialized stem cells are called *multipotent*.¹⁰

III. The Ethical Dilemma of Stem Cell Research:

In order to harvest the Stem Cells, scientists must puncture the embryo – thereby killing it. Additionally, this research raises the prospect of human cloning. For stem cell research to have therapeutic value it must produce tissue which the body's autoimmune system will not reject. To enable this, scientists will manufacture a "clone" by removing the genetic makeup of a stem cell and replace it with an adult chromosome.

Officially, Obama opposes reproductive cloning where the embryos grow to full maturation. Yet, it is permissible under his policy to allow for research cloning. In both of these cases, the puncture and termination of embryonic life is murder as the Bible teaches that life begins at conception.

IV. Recent Advances:

As mentioned earlier, scientists have discovered a way to manufacture pluripotent cells from skin cells. One author notes the following advantages:

First, they're cheaper and easier to work with than cells produced by killing human embryos. Not surprisingly, hundreds of labs have made the switch from embryonic stem cells to induced pluripotent ones.

Second, and very importantly, induced pluripotent stem cells are patient specific. As anyone familiar with organ transplants knows, immune rejection is a major hurdle to any form of regenerative medicine. Induced pluripotent stem cells clear

¹⁰J. Kerby Anderson "Cloning, Stem-Cell Research, and the Bible": *Bibliotheca Sacra Volume 159*. Dallas Theological Seminary, 2002; 2003, S. 159:464

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this hurdle because they can be created using the patient's own skin cells; thus they will have his exact DNA sequence and will not be prone to immune rejection. For embryonic stem cells to do the equivalent, they would have to be created from an embryo produced by human cloning. Clearly, then, Bush's critics were being disingenuous when they claimed to want only the IVF "spares"--embryos that "were going to die anyway." While those might have been the first cells needed for basic research, any therapeutic uses would require patient-specific cells, attainable only by cloning. That would open up ethical debates over human cloning and killing--and debates about the ethics and safety of encouraging (or paying) women to subject themselves to hormonal stimulation to produce eggs for use in the cloning process. Using induced pluripotent stem cells avoids all of these problems.¹¹

V. Thought Questions:

- A. What does the history of stem cell research teach us about how we should regard the claims of science – especially when politics and science work together?

- B. How would you answer someone who claims that we should go ahead and perform embryonic stem cell research since the already frozen half a million embryos are going to die anyway?

VI. Conclusion:

Stem Cell research holds tremendous value and research has demonstrated that it can be done in an ethical way. As Christians we should support any technology which can reduce suffering, but we should vigorously oppose making and destroying lives to save lives.

¹¹ Ryan T. Anderson **Perpetuating a Needless Stem-Cell War**
Obama's decision is bad ethics, bad science, and bad politics.
<http://weeklystandard.com/Content/Public/Articles/000/000/016/258hdajj.asp>