

Reference: These websites were found by searching the web using typical web searches such as www.hotbot.com or msn search on www.msn.com, etc. Many of the articles were found using www.findarticles.com or www.sciam.com, the Scientific American website. The following sites have been divided into 4 categories based on the information and content found in each site and ranked in order of usefulness and amount of information provided. The scale used for ranking is from 1 to 5 with 5 being the most informative, clear and useful in its category and 1 being the least informative, clear, useful or relevant in its category.

Sites On Controversies Relating to Human Embryos: stem cell/human embryo research, cloning, infertility treatments debates

Rating Key: 5 = most informative, clear and useful; 1 = least informative, useful and clear

On Human Embryos and Stem Cell Research: An Appeal for Legally and Ethically Responsible Science and Public Policy

<http://www.stemcellresearch.org/statement/statement.htm>

A thorough discussion of the reasons against human embryonic stem cell research including why it is unethical, scientifically questionable, a violation of existing law and policy and unnecessary. *Rating: 5*

Ethical Implications of Human Embryo Research

<http://www.isesco.org.ma/pub/Eng/Human%20Embryo/humanEm.htm>

Includes information on types of embryo research and its related ethical issues, gene therapy, cloning and its ethical issues, embryo splitting and an Islamic background of human embryo research. *Rating: 5*

The First Cloned Human Embryo

<http://www.humancloning.org/firsthumanclone.htm>

A brief overview of ACT's first cloned human embryo and its purpose with links to pro-human cloning sites and information on human cloning. *Rating: 4*

Stem Cells and the Human Embryo

<http://www.cbhd.org/resources/overviews/stemcell.html>

Include background information to understanding the human embryonic stem cell research debate in Q&A format. *Rating: 4*

Human Embryo & Stem Cell Research

http://www.religioustolerance.org/emb_rese.htm

Include links to the science, history of funding, ethical implications and recent developments of embryo research and of stem cell research. *Rating: 4*

How Significant is the Creation of the First Cloned Human Embryo?

http://www.economist.com/printedition/displayStory.cfm?Story_ID=885945

Discusses background information on cloning and the ACT development in embryonic stem cell research, as well as possible steps the government can take in response to this controversial issue. *Rating: 4*

Human Embryo Research/Fetal Tissue Experimentation

<http://www.family.org/cforum/research/papers/a0001013.html>

A Pro-life view on human embryo research, with arguments against using aborted fetuses for science research. Also includes brief description of science developments in the controversial science of embryology. *Rating: 4*

AAP Policy Statement: Human Embryo Research

<http://www.aap.org/policy/0104.html>

Response by the American Academy of Pediatrics towards the controversial funding and allowing of research that uses human embryos which supports NIH funding for human embryo and stem cell research because both are of scientific significance. *Rating: 4*

Scientists Clone Human Embryo

http://www.thestar.com/NASApp/cs/ContentServer?pagename=thestar/Layout/Article_Type1&c=Article&cid=1006729343648&call_page=TS_News&call_pageid=968332188492&call_pagepath=News/News&col=968793972154

More information ACT's development in cloning first early human embryo with links to pro- and anti-cloning views, cloning and Christian ethics and the basics of genetics. *Rating: 4*

Embryo Research: A Life for a Life?

http://www.findarticles.com/cf_dls/m1571/9_16/60270489/p1/article.jhtml?term=human+embryo

Discusses the legal and ethical concern over human embryo stem-cell research since HHS's reinterpretation of the Congressional ban on living human embryo research, with the viewpoints of pro-lifers, government officials, scientists and those who this research may help. *Rating: 4*

End Embryo Research

http://www.findarticles.com/cf_dls/m1058/26_117/66035534/p1/article.jhtml?term=human+embryo

Discuss the controversy surrounding NIH's revisit of guidelines for embryonic research, the British government's attempt to deal with this issue in the Parliament and the negatives of supporting embryonic research. *Rating: 4*

Hard Cell: The Push to Experiment On Human Embryos

http://www.findarticles.com/cf_dls/m1282/6_51/54459049/p1/article.jhtml?term=human+embryo

Follows the government's actions on funding for human embryo research, why supporters such as pro-abortion rights advocates are pushing for it and the future of using stem cells from embryos. *Rating: 4*

Forever Young

http://www.findarticles.com/cf_dls/m1511/1_20/53501803/p1/article.jhtml?term=human+embryo

Article describing two labs' success in isolation human embryonic stem cells and the future of stem cell in therapeutic treatments, with summaries of related articles. *Rating: 4*

The Growing Moral Debate Over the Value of Human Embryos

<http://www.naplesnews.com/today/religion/d350699a.htm>

Discussion of the viewpoints of both sides of the moral debate over scientific research use of human embryos and also the debate on using aborted fetuses and on the rights of human embryos. *Rating: 4*

NIH and Human Embryo Research Revisited: What is Wrong With This Picture?

<http://www.all.org/abac/dni002.htm>

An essay by the American Bioethics Advisory Committee on the issue of human embryo research. Topics discussed include NIH recommendations and analysis of these recommendations, the political evolution of this issue and protections of the basic human rights of research subjects. *Rating: 4*

Do Human Embryos Have Rights?

http://www.findarticles.com/cf_dls/m1321/21_180/54929176/p1/article.jhtml

Article examining the potential problems with the Dept. of Health and Human Services' ruling that Congressional ban on embryonic research does not apply to embryonic stem-cell manufactures and the cons of manufacturing embryos for stem cell research. *Rating: 3*

Scientists Coax Stem Cells from Unfertilized Primate Embryos

<http://www.sciam.com/article.cfm?articleID=0006ED55-E07C-1CCE-B4A8809EC588EEDF&pageNumber=1&catID=1>

Article on experiment that resulted in 4 out of 77 macaque monkey eggs being tricked by parthenogenesis into becoming embryos and providing stem cells. Discusses the possibility of using parthenogenesis to get around ethical concerns of embryo research. by producing stem cells from embryos from unfertilized eggs. *Rating: 3*

U.S. OKs Human Embryo Research

<http://www.fool.com/news/foolplate/2000/foolplate000823.htm>

About NIH's approval of the controversial guidelines for human embryo stem cell research funding with some information on the U.K.'s policy towards this issue. *Rating: 3*

Britain to Allow Human Embryo Cloning

<http://www.theage.com.au/news/2001/01/24/FFXPQKQ9BIC.html>

About the House of Lords' decision to back laws that will allow human embryos to be cloned for medical research purposes and voices some of the views of both sides on this issue. *Rating: 3*

Firm Claims Human Embryo Cloned

<http://www.wired.com/news/technology/0,1282,48608,00.html>

Report on ACT's success in cloning a human embryo and the different reactions this claim caused, with supports given for both sides. *Rating: 3*

UK Go-ahead To Human Embryo Cloning

<http://www.xtramsn.co.nz/news/0,,3884-1172177,00.html>

Report on the ruling by the House of Lords to grant a research license to clone human embryos and that any "cell line" generated from the cloning be deposited in a stem cell bank. Also has a link to a Q & A's for therapeutic cloning. *Rating: 3*

Neither Person Nor Property : Embryo Research and the Status of the Early Embryo

http://www.findarticles.com/cf_dls/m1321/10_184/73866770/p1/article.jhtml?term=human+embryo

General overview of the two extreme sides in the debate on whether embryos have rights that protect them from experiments, problems with both sides, alternative views and ways to deal with the issues in the debate. *Rating: 3*

Revenge of the Sperm People

http://www.findarticles.com/cf_dls/m0JSB/2_15/79210305/p1/article.jhtml?term=human+embryo

Discuss another aspect of the human embryo stem-cell research debate in the negative aspects of extracting human eggs. Focuses mainly on in vitro fertilization, the source of the available embryos at hand. *Rating: 3*

Time to Deal with a Typical British Fudge

http://www.findarticles.com/cf_dls/m0FQP/4501_129/65018083/p1/article.jhtml?term=human+embryo

About the Donaldson report on stem cells, methods to produce embryos for stem cells and why existing experimentation on human embryos should be liberalized and that human cloning for therapeutic purposes be permitted. Also discusses other human embryo research issues in Britain. *Rating: 3*

Give a Life, Take a Life

http://www.findarticles.com/cf_dls/m1571/30_15/55481517/p1/article.jhtml?term=human+embryo

A general overview of the stem cell research controversy with discussions of the different perspectives from the viewpoints of well-known individuals. *Rating: 3*

Universal Repair

http://www.findarticles.com/cf_dls/m0GER/2000_Summer/63500745/p1/article.jhtml?term=human+embryo

Background information on stem cells and why they are so useful, morale questions raised by embryonic stem cell research and links to other sites on this ethical dilemma. *Rating: 3*

Couple Select Healthy Embryo to Provide Stem Cells for Sister

http://www.findarticles.com/cf_dls/m0999/7266_321/66881248/p1/article.jhtml?term=human+embryo

Describes another case with ethical issues in which parents use in vitro fertilization and preimplantation genetics to produce embryos for a child that can donate stem cells and bone marrow for their daughter with the fatal disease, Fanconi's anemia. *Rating: 3*

Human Embryo Research: Where We've Been, Where We Should Go

<http://cogforlife.org/stemdoerfeb.htm>

An overview of human embryo research with information on the up-to-date situation in the debate, the scientific facts of stem cells, current laws on this issue and the Dickey Amendment that prohibits this type of research. *Rating: 3*

Blastocyst Brouhaha

http://www.findarticles.com/cf_dls/m1568/5_33/78575540/p1/article.jhtml?term=human+embryo

Logical arguments against why a 5-day old embryo is not a person with quotes of support from other government officials and bioethicists. *Rating: 3*

From the Editors: Save Embryonic Stem Cell Research

<http://www.sciam.com/article.cfm?articleID=00037C21-1829-1C70-84A9809EC588EF21&pageNumber=1&catID=2>

A discussion with background information (laws and other policies related to) on the debate over the issue of using embryos for stem cell research with support for using embryos. *Rating: 3*

A Theologians' Brief on the place of the human embryo within the Christian tradition & the theological principles for evaluating its moral status

<http://www.linacre.org/atheol.html>

A paper written for and submitted to UK's House of Lords in an attempt to convince them against therapeutic cloning on a religious basis. *Rating: 3*

Reports from European Society of Human Reproduction and Embryology

http://infertility.about.com/library/bleshre2001.htm?iam=excite_1?terms=embryology

A set of links to reports on Controversial Subjects, Treatment Related Findings, and the Children of Assisted Reproductive Technology from the 2001 European Society of Human Reproduction and Embryology Conference. *Rating: 3*

Human Embryo Created Through Cloning

<http://www.cnn.com/2001/TECH/science/11/25/human.embryo.clone/index.html>

Article examining the controversial sides to Advanced Cell Technology Inc.'s announcement of their successful use of cloning to create human embryos. Ethical issues involved with human cloning and lawmaker's immediate criticism to ACT's scientific methods to obtain embryos for stem cell research is discussed. *Rating: 2*

Cloned Baby Still Far Off

<http://abcnews.go.com/sections/scitech/DailyNews/clonenotbaby011126.html>

A view of why ACT's cloned human embryos should be considered as being closer to fertilized egg than human clone. Include links to stories on the debate on the ACT cloning of human embryos. *Rating: 2*

Florida House Passes Ban on Human Cloning

http://www.findarticles.com/cf_dls/m1141/21_38/84895933/p1/article.jhtml?term=human+embryo

A short report on the ban Florida's legislation passed on "therapeutic cloning" and the implications of this decision. *Rating: 2*

Embryos and Us

http://www.findarticles.com/cf_dls/m1058/22_118/77434976/p1/article.jhtml?term=human+embryo

Article arguing for limited research on human embryos and banning manufacturing human embryos. *Rating: 2*

Human Cloning Research Proceeds in South Korea

http://www.findarticles.com/cf_dls/m1058/2_116/57643519/p1/article.jhtml?term=human+embryo

Report on South Korean scientists' claim that they have successfully cloned a human embryo using DNA from a woman. The embryo's development was halted at the four-cell stage in accordance with the law. Brief discussion of some implications of this claim. *Rating: 2*

US Government to Fund Human Stem Cell Research

http://www.findarticles.com/cf_dls/m0999/7260_321/66676907/p1/article.jhtml?term=human+embryo

A news article on the new guidelines issued in regards to human embryo research and the reactions to this decision. *Rating: 2*

Scientists Want 'Silly' Ban on Human Embryo Research Lifted

http://www.findarticles.com/cf_dls/m1571/5_15/53744914/p1/article.jhtml?term=human+embryo

Scientists argue that the ban on embryo research should be lifted because they can help cure diseases, especially with scientific developments like Japanese researchers' successful cloning of eight calves from a cow's cells. *Rating: 2*

US Couple Files Malpractice Lawsuit Against Doctor For Embryo Mix Up

http://www.findarticles.com/cf_dls/m0999/7190_318/54561207/p1/article.jhtml?term=human+embryo

A white couple sued their in vitro fertilization doctor for an embryo mix up that resulted in the birth of a black baby and a white twin brother. Related to issues of morality and genetics in regards to fertility treatments. *Rating: 2*

House of Lords Supports Human Embryonic Stem Cell Research

http://www.findarticles.com/cf_dls/m0999/7280_322/70634407/p1/article.jhtml?term=human+embryo

Britain's House of Lords surprisingly voted for new regulations that would allow the Human Fertilization and Embryology Authority to license a wider range of research for human embryo research. *Rating: 2*

UK Government Approves Limited Cloning of Human Embryos

http://www.findarticles.com/cf_dls/m0999/7260_321/66676908/p1/article.jhtml?term=human+embryo

News article about a panel of experts and their proposals on the issue of limiting human cloning for research purposes. Include required consent for therapeutic cloning, mixing human cell materials with animals' and strict regulations for therapeutic cloning. *Rating: 2*

Stem Cell Funding Renews Debate

http://www.findarticles.com/cf_dls/m1141/39_36/65774923/p1/article.jhtml?term=human+embryo

Article on the reactions of different officials to NIH's announcement to give funding to therapeutic cloning and Britain's precedent in the issue. *Rating: 2*

HLI Urges Congress to Halt Embryo Experimentation

http://www.findarticles.com/cf_dls/m4PRN/2000_August_25/64784675/p1/article.jhtml?term=human+embryo

Article on the largest pro-life, pro-faith, pro-family apostate, the Human Life International's view on controversial embryo experimentation. *Rating: 2*

College Urges Maximum of Two Embryos for In Vitro Fertilization

http://www.findarticles.com/cf_dls/m0999/7230_320/59534838/p1/article.jhtml?term=human+embryo

The Royal College of Obstetricians and Gynecologists recommended in their latest issue of guidelines on infertility management that a maximum of two embryos should be given to women for in vitro fertilization to avoid mortality, morbidity and social problems associated w/multiple births. *Rating: 2*

Bush Backs Human Embryo Stem Cell Research

http://www.ananova.com/news/story/sm_371337.html

About Pres. Bush's approval for federal funding for limited human embryo research for stem cells with quotes and the basis of his support. *Rating: 2*

Germany's Parliament Restricts Importation of Human Embryo Cells

http://seattletimes.nwsources.com/html/nationworld/134397905_stem31.html

News article on the Germany parliament's decision to allow only limited imports of human embryos cells for research and the biotechnology situation in Germany. *Rating: 2*

Human Embryo Cloned

http://specialchildren.about.com/library/weekly/aa112601a.htm?iam=excite_1?terms=human+embryo

News article on ACT's cloning of a human embryo and the debate in politics, religion and ethics that has resulted. *Rating: 2*

Fetal Life and Abortion

<http://unbornperson.com/>

A site evaluating abortions with discussions on the different aspects of abortion such as the people involved, the rights of the conceptus, social effects and legislation related to abortion and links to related sites. *Rating: 2*

Human Embryo Cloning Draws Fire

<http://msnbc.com/news/662735.asp?cp1=1>

Brief synopsis of ACT's cloning of the first human embryo with a picture of how it was done. *Rating: 2*

Embryology Associates Inc.

<http://www.embryoivf.com/>

The site of an embryology company that provides in vitro fertilization with success rates and their approach to IVF. *Rating: 2*

Britain OKs 'Therapeutic' Human Embryo Cloning

<http://www.newsmax.com/archives/articles/2000/12/20/172433.shtml>

About Britain's House of Commons' decision to ease the rules for scientists to be able to clone embryos up to 14 days old and use them for stem cells as part of a therapeutic cloning approach and the reactions to this decision. *Rating: 2*

Koreans Clone Human Embryo

<http://www.abc.net.au/science/news/stories/s18013.htm>

Report on the first public claim of human cloning by a team of Korean scientists with some information on how the embryo was cloned. *Rating: 1*

Netherlands Bans Cloning of Human Embryos for Research

http://www.findarticles.com/cf_dls/m0999/7265_321/67044628/p1/article.jhtml?term=human+embryo

A new embryo bill is in the Dutch parliament, which, if passed, will ban medical research involving human embryo therapeutic cloning and that any research using surplus embryos from in vitro fertilization will be under strict conditions and required consent. *Rating: 1*

Should We Help Women Over 50 Conceive With Donor Eggs?

http://www.findarticles.com/cf_dls/m0BGG/1_45/59362813/p1/article.jhtml?term=human+embryo

The ethical and moral implications of using science to help women over 50 reproduce and have children are reviewed, with support for it and facts to refute arguments against helping. Have almost no information on human embryos and little on the science aspect of the issue. *Rating: 1*

Fiorenza Asks Congress Not to Fund Human Embryo Research

http://www.findarticles.com/cf_dls/m1321/3_185/77083387/p1/article.jhtml?term=human+embryo

Very short paragraph on the president of the U.S. Conference of Catholic Bishops' view on the human embryo stem-cell research debate and his request for Congress to not fund this research. *Rating: 1*

ALL Calls for Ban on Deadly Human Embryo Research

http://www.findarticles.com/cf_dls/m4PRN/1998_Nov_6/53185242/p1/article.jhtml?term=human+embryo

A brief article on the pro-life group, American Life League's efforts to convince Congress to ban all stem cell research on human embryos, with quotes on their views. *Rating: 1*

Human Embryo Cloning

http://www.findarticles.com/cf_dls/m0CYD/1_37/82105199/p1/article.jhtml?term=human+embryo

Very short article on reactions of some groups to ACT's cloning announcement, including antiabortion advocates and the American Society of Reproductive Medicine. *Rating: 1*

Research: Should Research on Human Embryos be Banned?

http://www.findarticles.com/cf_dls/m0WXI/2363/53283479/p1/article.jhtml?term=human+embryo

Summarizes the opinion of the European Group on Ethics on research using human embryos. *Rating: 1*

Embryo cloning approved in UK

http://www.findarticles.com/cf_dls/m1058/7_118/71949671/p1/article.jhtml?term=human+embryo

Brief article on the UK's decision to allow cloning of human embryos and the circumstances surrounding this decision. *Rating: 1*

Victorious Custody Battle

http://www.findarticles.com/cf_dls/m1355/10_96/55543298/p1/article.jhtml?term=human+embryo+

Summarizes the result of a court case in which an erroneous embryo implantation caused a white mother to give birth to a black twin boy. *Rating: 1*

White Couple Gives Baby To His Black Genetic Parents In Embryo Mix-Up Case

http://www.findarticles.com/cf_dls/m1355/2_96/54925215/p1/article.jhtml?term=human+embryo

Article about the return of a black baby who was mistakenly implanted in a white woman to his genetic parents. *Rating: 1*

American Life League: New Guidelines on Embryonic Cell Research 'Sanction the Killing of Innocent Human Beings'

http://www.findarticles.com/cf_dls/m4PRN/2000_August_23/64506440/p1/article.jhtml?term=human+embryo

Short article on the pro-life American Life League's condemnation of the Clinton Administration's new guidelines approving the use of human embryo cells for research. *Rating: 1*

Signs of the Times: Restrict Embryo Research, Says Catholic Official

http://www.findarticles.com/cf_dls/m1321/1_180/53493431/p1/article.jhtml?term=human+embryo

Very short article on the request of the associate director for policy development for the U.S. bishops' Secretariat for Pro-Life Activities to Congress against embryo research. *Rating: 1*

Human Fertilization and Embryology Act 1990

http://www.hmso.gov.uk/acts/acts1990/UKpga_19900037_en_1.htm

A copy of Britain's Human Fertilization and Embryology Act of 1990. *Rating: 1*

Human Fertilization and Embryology (Amendment) Bill

<http://www.parliament.the-stationery-office.co.uk/pa/cm199900/cmbills/138/2000138.htm>

An amendment to Britain's 1990 Human Fertilization and Embryology Act that changes the status and meaning of "father" of a child conceived posthumously. *Rating: 1*

Human Fertilization and Embryology

<http://www.cofe.anglican.org/view/embryo.html>

Article written by the Church of England on Human Fertilization and Embryology, including its views on new methods of human fertilization. *Rating: 1*

Adoption of a Frozen Embryo

<http://www.catholic.net/RCC/Periodicals/Homiletic/0809-96/1/1.html>

A religious view on whether adopting a frozen embryo in order to “rescue” the embryo is a religiously valid option. *Rating: 1*

Why You Should Support RU-486

<http://www.karawynn.net/ru486/ru486.shtml>

A close examination at RU-486, also known as “the abortion pill” and the issue of abortion in general. *Rating: 1*

Sites on Embryo Development (Development from conception to birth)

Rating Key: 5 = most informative, clear and useful; 1 = least informative, useful and clear

Basic Embryology Review Program

<http://www.med.upenn.edu/meded/public/berp/>

Include an Overview Chapter that follows development of an embryo from fertilization through birth, with descriptions and an illustration of each of the developmental period featured. *Rating: 5*

First Nine Months

<http://www.parentsplace.com/first9months/main.html>

A specific day-by-day (of the first week) and then week-by-week view of the development of a fertilized egg into a baby from conception to birth with animations and pictures. *Rating: 5*

The Visible Embryo

<http://www.visembryo.com/baby/>

Examination of each of the stages of an embryo’s development in the first 10 weeks after fertilization with illustrations and a narrative of all the organ and body developments up to 40 weeks post fertilization.

Rating: 5

Fetal Development: First Trimester

<http://www.w-cpc.org/fetal1.html>

Includes week-by-week descriptions of embryo’s development from conception to the end of the 1st trimester (link to 2nd trimester) with colored pictures. *Rating: 4*

Human Embryology: Table of Contents

<http://www.med.uc.edu/embryology/contents.htm>

Include animations, links, self-tests and an instructor’s manual of the human embryo in the first through fourth week, and development of different organs and systems. *Rating: 4*

Fetal Development Overview

<http://www.w-cpc.org/fetal.html>

A general overview of the stages of fetal development over 40 weeks with color photos for each trimester. *Rating: 4*

The Standard Mammalian Development Plan

http://students.biology.lsa.umich.edu/bio208_4/eDEV.html

Provides detailed information on fertilization, cleavage, gastrulation, neurulation and organogenesis. Also has information on the development n of muscles, bones, neural crest, nervous system, skin, eyes, limbs and the other organs formed from epithelial-mesenchymal interactions. *Rating: 4*

Visualizing Human Embryos

<http://www.sciam.com/article.cfm?articleID=000E6E57-8979-1CD6-B4A8809EC588EEDF&catID=2>

Discusses how the technique magnetic resonance microscopy is used to generate visualizations of the human embryo through development with links to animations of embryonic development. *Rating: 4*

Delivering Essential Copper to the Developing Embryo

<http://www.sciam.com/article.cfm?articleID=000D9825-F038-1C5E-B882809EC588ED9F&pageNumber=1&catID=1>

The importance of the nutrient copper to growing embryos is revealed in an experiment that resulted in complete inhibition of embryonic development when a protein delivering copper is lost. *Rating: 4*

Early Development Slide List

<http://www.people.virginia.edu/~rjh9u/fetalpic.html>

Links to pictures of the human embryos in different stages, summary of embryo development and movie of development. *Rating: 4*

Embryology Outline

http://www.rpi.edu/dept/bio/info/Embryology_Notes/Embryology_Outline.html

A very specific outline of the events occurring in embryology and development in embryos. *Rating: 4*

Embryology

<http://www.orthoteers.co.uk/Nrujp~ij33lm/Orthembryology.htm>

Description and pictures of the formation of trilaminar embryo in the 3rd week since conception, the embryonic period in week 4 to 6 and the fetal period from week 7 to birth. *Rating: 4*

Atlas of Developmental Abnormalities in Common Laboratory Mammals

<http://www.ifts-atlas.org/ifts/>

A collection of images of developmental abnormalities as observations in embryos and neonates from lab mammals, as well as a glossary of syndromes and of common terms. *Rating: 4*

Chicken Development

<http://anatomy.med.unsw.edu.au/CBL/Embryo/OtherEmb/Chicken.htm>

Has a short introduction to the development of a chicken embryo with a picture of a 56h embryo. Also has links to other sites on chicken development and chicken genomics. *Rating: 3*

Comparative Table: Life Begins - Nine Months Miracle – Internet

<http://perso.wanadoo.es/mcastrov/comparativetable.html>

A table of the most important subjects related to human development before birth with links to other resources and websites. *Rating: 3*

Which Embryo is Human?

<http://www.exploratorium.edu/exhibits/embryo/embryoflash.html>

Basic information on DNA and generalization of what is happening in a developing embryo with interactive illustrations of embryos of different organisms. *Rating: 3*

Morphing Embryos

<http://www.pbs.org/wgbh/nova/odyssey/clips/>

Available downloading and viewing of clips of time-lapse sequences of growing human, chicken, pig or fish embryo as streaming video. *Rating: 3*

Chickscope

<http://chickscope.itg.uiuc.edu/explore/embryology/>

Follows the 21-day life cycle of egg development from the time it is laid to the time it hatches. Has a list of events, pictures and a special focus for each day in the cycle. *Rating: 3*

Embryology

<http://home.uleth.ca/bio/bio1020/embryoli.html>

A set of pictures of cerebratulus, starfish and frog embryos at different stages of development. *Rating: 3*

Embryology CAL Package

http://www.teaching-biomed.man.ac.uk/student_projects/2000/mmmr7jl/intro.htm

Animations showing development after implantation and meant to aid second year medical students.

Rating: 3

Early Development Slide List

<http://wsrv.clas.virginia.edu/~rjh9u/fetalpic.html>

List of slides and diagrams in the early developmental stages of humans and two animation shows of the process. *Rating: 3*

Frog Embryology

<http://www.ultranet.com/~jkimball/BiologyPages/F/FrogEmbryology.html>

Descriptions and diagrams of the egg, fertilization, cleavage, gastrulation, germ layers, differentiation growth of frog embryos. *Rating: 3*

Embryo

http://www.findarticles.com/cf_dls/g2602/0002/2602000222/p1/article.jhtml?term=human+embryo

Definition of embryo and brief description of some of the events in embryo development as well as an updated look at embryology and the controversy with human embryo research. *Rating: 3*

Facts of Fetal Development

<http://www.prolife.com/FETALDEV.html>

General timeline of fetal development, scientists' testimonies on when life begins, and links to sites with pictures of babies inside the womb at different developmental stages. *Rating: 2*

Scientists Identify a Gene Needed to Keep Female Embryos Alive

<http://www.sciam.com/article.cfm?articleID=0009C4CC-3E69-1C60-B882809EC588ED9F&pageNumber=1&catID=1>

Tells about the discovery of the gene *eed* which keeps paternal (and doubled) X chromosomes inactive in female embryos and also holds other important roles in the embryos' developmental process. *Rating: 2*

Does the Human Embryo Go Through Animal Stages?

<http://www.icr.org/pubs/btg-b/btg-008b.htm>

A religious view against abortion and the reasoning for abortion known as biogenetic law with some scientific information on the stages of embryo development as support. *Rating: 2*

Artificial Embryology and Evolution Simulation

<http://www.oursland.net/projects/critters/>

An experiment aimed at evolving structure of neural networks by mimicry of cellular processes. Provides background information on cell differentiation and a visual. *Rating: 2*

Division Molecular Embryology

<http://www.dkfz.de/abt0135/>

The site of a lab that investigates embryonal cell fate during early vertebrate development using frog embryos with links to publications. *Rating: 2*

Embryology Courseware

<http://endeavor.med.nyu.edu/courses/embryology/courseware/eehd/>

Have the first Embryonic Development video clips for Cardiac Embryology with anterior, posterior, left and right lateral views. *Rating: 2*

IVF: 5. Photos of Embryo Development

http://www.sffertility.com/ivf/ivf_devel.htm

A collection of 5 pictures with short descriptions. There's an ultrasound picture of ovary, fertilized oocyte, four-cell embryo, eight cell embryo and hatched embryo. *Rating: 1*

Sites with General Information on Embryos and Embryology

Rating Key: 5 = most informative, clear and useful; 1 = least informative, useful and clear

Embryology Links

http://www.msm.edu/human_morph/embryo/embryo.htm

A list of useful links (with short descriptions) to topics in General Embryology and Special Embryology. Most links from universities and have multimedia features, and also include The Visible Embryo. *Rating: 5*

UNSW Embryology

<http://anatomy.med.unsw.edu.au/CBL/embryo/Embryo.htm>

Site for exploring embryology with pictures of the Carnegie stages of an embryo, introduction written for students, notes on the early developmental processes, information on abnormal development, and a visual presentation of the changes occurring during development. *Rating: 5*

Moral Questions Dog Stem-Cell Research

http://www.findarticles.com/cf_dls/m1571/14_17/75819897/p1/article.jhtml?term=human+embryo

Thorough information on importance of stem cell, recent developments in embryonic stem cell research including USF study with rats showing umbilical-cord stem cell can help stroke victims' brain recover. Another study that transferred cells from aborted fetuses to human Parkinson's patients in an attempt to help them recover caused negative side effects and was considered a setback for embryonic research.

Rating: 5

The Multi-Dimensional Human Embryo

<http://embryo.soad.umich.edu/index.html>

Site created by National Institute of Child Health Development of NIH with 3D image references of the human embryo, information on the imaging techniques used and the Multi-Dimensional Human Embryo Project and links to related sites. *Rating: 4*

Embryological Modeling Research Group

<http://embryos.st-andrews.ac.uk/default.htm>

Information on the works of the Embryological Modeling Researching Group, a database with search options for individual embryos at different stages of development and for the appearance and extent of major organs, available downloads of 3-D QTVR models and 2-D animations *Rating: 4*

Hormone Wards off Immune Cells in Womb

http://www.findarticles.com/cf_dls/m1200/16_160/80680524/p1/article.jhtml?term=human+embryo

Describes an experiment in which researchers found corticotropin-releasing hormone, which was known to be involved in the brain's response to stress, help produce a protein that prevents maternal immune cells from attacking embryonic tissue. *Rating: 4*

Hydatidiform Mole

http://www.findarticles.com/cf_dls/g2601/0006/2601000690/p1/article.jhtml?term=human+embryo

Definition, Causes and Symptoms, Diagnosis, Treatment, Prognosis, and related terms of the disease known as Hydatidiform mole, in which tissues around a fertilized egg forms an abnormal cluster of cells instead of a placenta and embryo. *Rating: 4*

Dynamic Development

http://www.ucalgary.ca/UofC/eduweb/virtualembryo/dev_biol.html

A site of modules on topics in developmental biology including gametogenesis, development from sperm and egg to embryo, genetic regulation of development, organizing the multicellular embryo, and generating cell diversity with tutorials. *Rating: 4*

Incubation and Embryology

<http://www.urbanext.uiuc.edu/eggs/>

A set of projects and labs for elementary and high school students on units such as the chicken and the egg, principles and procedures of incubation and embryonic development and embryos. *Rating: 4*

Another Way to Look at Serially Sectioned Frog and Chick Embryos

http://sdb.bio.purdue.edu/SDBEduca/QT_Embryos1.html

“postage-stamp” versions of QuickTime digital movie of the digital images of serially sectioned frog and chick embryos and explanation on the making of the movie and the technique of using serial sections of embryos. *Rating: 4*

Embryology Weblinks

<http://www.thefetus.net/Menu-1trim.html>

Has links and downloads of a series of lectures about embryology given by Dr. Thomas Marino from Temple University. *Rating: 4*

When do Human Beings Begin?

<http://www.princeton.edu/~prolife/articles/wdhbb.html>

Discusses the scientific myths and scientific facts that prove or disprove these myths in regards to human development and embryology. Also have some basic human embryological facts and a summary of the events of human development. *Rating: 4*

Embryology 1999

<http://www.vet.uga.edu/var/embryo99/>

Contains the lesson plans of the 10-week embryology course with 2 review tests and a final exam. Also has domestic animal embryological data and a lot of pictures of different stages. *Rating: 4*

Embryo Freezing: Cryopreservation

<http://www.advancedfertility.com/cryo.htm>

Description of cyropreservation, freezing tissue or cells to preserve it for the future, and its history and techniques in regards to helping overcome infertility. *Rating: 3*

Researchers Identify Gene Involved in Deciding Cloned Embryo's Fate

<http://www.sciam.com/article.cfm?articleID=000861E3-F1C2-1CE2-93F6809EC5880000&pageNumber=1&catID=1>

Short article discussing the discovery of the gene expression *Oct4* that is believed to be a significant influence on whether a newly cloned mammalian embryo will survive. *Rating: 3*

Unprocessed Proinsulin Promotes Cell Survival During Neurulation in the Chick Embryo

http://www.findarticles.com/cf_dls/m0922/3_51/84209421/p1/article.jhtml?term=human+embryo

Report on an experiment on chick embryos that analyzes the endogenous insulin signaling and whether it contributes to early embryonic cell survival. *Rating: 3*

No. The Psychological Risks to the Offspring are not Justifiable

http://www.findarticles.com/cf_dls/m0BGG/1_45/59362814/p1/article.jhtml?term=human+embryo

Discuss the maternal and psychological risks for children born as a result of human embryo transplantation. *Rating: 3*

Embryo Stem Cells Turned to Blood

http://www.findarticles.com/cf_dls/m1200/11_160/78889708/p1/article.jhtml?term=human+embryo

The importance of embryonic stem cells is focused on the new discovery by researchers in which they isolated and developed human embryonic cells into various types of blood cells including red and white blood cells and platelets. *Rating: 3*

Determining Embryonic Stem Cell Potential: Researchers Isolate Neuronal Progenitor Cells from ESCs

http://www.findarticles.com/cf_dls/m0FDK/1_16/82258823/p1/article.jhtml?term=human+embryo

Article on two research groups' success in isolating highly purified populations of neuronal progenitor cells from human embryonic stem cell (ESC) cultures and thus showing the potential of human embryonic stem cells. *Rating: 3*

Bibliography of Studies on Staged Human Embryos

<http://www.netembryo.org/carnbibl.htm>

A bibliography of 448 sources of studies on staged human embryos. *Rating: 3*

Embryology

<http://omni.ac.uk/subject-listing/QS604.html>

Links with summaries of sites on birth defects and embryology including a site on the visible embryo that has a lot of information on human development from conception to birth for medical students. *Rating: 3*

Embryology in the Classroom

<http://ulisse.cas.psu.edu/4hembryo/index.html>

Provides background information on embryology and life science as well as experimental activities for classes in grades 2-8. *Rating: 3*

Infertility and Embryology News and Resources

<http://www.ivf.net/>

A collection of news articles and announcements on Embryology and in vitro fertilization with short summaries and links. *Rating: 3*

Details of Hybrid Clone Revealed

http://news.bbc.co.uk/1/hi/english/sci/tech/newsid_371000/371378.stm

Article providing some of the details of ACT's experiment that produced the first hybrid human embryo clone, such as that it used cells from a man's leg and a cow's egg, and talks a little bit about the controversy this development caused. *Rating: 3*

A Comparative Embryology Gallery

<http://raven.zoology.washington.edu/embryos/embryos.html>

A collection of snapshot pictures of different invertebrate embryos at different stages, some with links to other collections. *Rating: 3*

Avian Embryology Terms

<http://www.msstate.edu/dept/poultry/aeterms.htm>

A glossary of terms and their definitions relating to embryology. *Rating: 3*

Welcome to Virtual Embryology

<http://www.kuhp.kyoto-u.ac.jp/multimed/VE/VE.html>

Provides virtual dissection of embryo on a computer display as well as an animation of a virtually growing embryo. *Rating: 3*

A Scientist's Interpretation of References to Embryology in the Qur'an

http://www.quran.org.uk/ieb_quran_embryology.htm

Explanations of embryology-related verses in the Qur'an or of phrases that are believed to be references to embryology. *Rating: 3*

Evidence for Evolution: Embryology

<http://www.nyu.edu/projects/fitch/courses/evolution/html/embryology.html>

Short lecture notes on "Darwin's Evidence: Embryology" and an accompanying review exercise. *Rating: 3*

Selective History of Induction II. Spemann's induction experiments

<http://zygote.swarthmore.edu/regul2.html>

Article on Hans Spemann's lens induction experiments and the consequent paper he published. *Rating: 3*

Gill Slits in Human Fetuses?

<http://www.rae.org/gillslit.html>

An article examining the truth to humans' "gill slits" and the history of that myth, as well as its relation to the Biogenetic Law, also known as the recapitulation theory. *Rating: 2*

Embryology and Evolution

http://www.creationresearch.org/crsq/articles/36/36_2/embryology.html

Discusses embryology in relation to evolution and recapitulation, the Darwinian hypothesis that a developing embryo summarizes the evolutionary history of that organism. *Rating: 2*

Embryo Images In Vitro Fertilization

<http://www.advancedfertility.com/embryos.htm>

Images of embryos in the first few days after In Vitro fertilization and other embryo-related images. *Rating: 2*

Twirl Those Organs into Place

http://www.findarticles.com/cf_dls/m1200/8_156/55882007/p1/article.jhtml?term=human+embryo

Article discussing the ability of the embryo to tell left from right, possible due to the role of cilia. *Rating: 2*

First Human Clone?

http://www.findarticles.com/cf_dls/m1590/10_58/83667594/p1/article.jhtml?term=human+embryo

Article with information on the processing of cloning, developments and progress of human cloning, *Ranking: 2*

Researchers Able to Check Chromosome Numbers in Embryos

http://www.findarticles.com/cf_dls/m0999/7268_321/67442803/p1/article.jhtml?term=human+embryo

Brief description of researchers' success in checking the number of chromosomes in virtually every cell of a test tube embryo. *Rating: 2*

Embryo Toxicity and Teratogenicity of Formaldehyde

http://www.findarticles.com/cf_dls/m0907/4_56/79124876/p1/article.jhtml?term=human+embryo

Lab report of an experiment on whether Formaldehyde, a probable human carcinogen, has reproductive and developmental effects. *Rating: 2*

Embryology in Tierra: A Study of a Genotype to Phenotype Map

<http://www.csu.edu.au/ci/vol04/eco-tierra/eco-tierra.html>

A paper featuring Ecolab, a model system of ecology aimed at understanding evolutionary process with a section on the embryology involved in this experiment. *Rating: 2*

Embryology Lecture

<http://mama.indstate.edu/prentice/emb/>

Site for the Embryology Lecture and Laboratory class with an Embryology discussion group, sample quizzes and exams. *Rating: 2*

AMBI Embryology Links

<http://www.biomed2.man.ac.uk/ugrad/ambi/embryol.html>

Provides links to Embryology CAL packages, websites and courses related to embryology. *Rating: 2*

Zygote: Info Link

<http://zygote.swarthmore.edu/info.html>

Informative nodes and links to 23 topics including some related to embryology. *Rating: 2*

Micro-miracle

http://www.findarticles.com/cf_dls/m1590/4_58/79967165/p1/article.jhtml?term=human+embryo

A very short article on stem cells and their relation to embryos. *Rating: 1*

Fate of Seven Human Embryos

http://www.findarticles.com/cf_dls/m0950/2_108/77480753/p1/article.jhtml?term=human+embryo

Discusses a NJ Supreme Court case in which a divorced couple is fighting over the future uses of 7 frozen human embryos left over from their marriage. *Rating: 1*

Good News, Ms Brown: It's a Pig

http://www.findarticles.com/cf_dls/m2465/8_30/67448395/p1/article.jhtml?term=human+embryo

Short article about the production of an embryonic pig-human hybrid by researchers who inserted human DNA into pig cells that became embryos. *Rating: 1*

Assisted Reproductive Technology: Embryo Laboratory Procedures and Practices

http://www.findarticles.com/cf_dls/m0DFY/8_2000/65358709/p1/article.jhtml?term=human+embryo

Short article about the development of Assisted Reproductive Technology embryo laboratories and the plans for managing these laboratories. *Rating: 1*

Premature Ejection

http://www.findarticles.com/cf_dls/m1169/2001_Feb-March/70888317/p1/article.jhtml?term=human+embryo

Short article about a researcher's discovery that the embryos red-eyed tree frogs will hatch early as a way to escape if they're being attacked. *Rating: 1*

Struthers, Inc. to Commence Training of Its Surgical Teams At the University of Missouri; Company Becomes Newest Member of the International Embryo Transfer Society

http://www.findarticles.com/cf_dls/m0EIN/1999_June_29/55018256/p1/article.jhtml?term=human+embryo

Struthers Inc., company known for the implementation of swine embryos, announce its plans to begin training embryo transfer surgical technicians and veterinarians, and its new membership of the International Embryo Transfer Society. *Rating: 1*

Carnegie Institution: Department of Embryology

<http://www.ciwemb.edu/>

Has general information about the Carnegie Institution, the Department of embryology and the staffs and seminars offered. *Rating: 1*

Hans Spemann – Biography

<http://www.nobel.se/medicine/laureates/1935/spemann-bio.html>

A brief biography of Hans Spemann, Nobel prize winner in Physiology or Medicine in 1935 and renowned for his work in experimental embryology. *Rating: 1*

Humans and Gills

<http://www.newton.dep.anl.gov/askasci/bio99/bio99850.htm>

A Question & Answer series on the gill slits that are present for a short time in early human embryos and the issue of breathing in the womb. *Rating: 1*

Sites Focusing on Anatomy and Specialized Developmental Biology

Rating Key: 5 = most informative, clear and useful; 1 = least informative, useful and clear

Heart Development

<http://www.meddean.luc.edu/lumen/MedEd/GrossAnatomy/thorax0/heartdev/index1.html>

Lesson on the different stages of heart development with a timetable of events and images, as well as information on congenital heart disease. *Rating: 5*

Embryology

<http://www.rchc.rush.edu/rmawebfiles/Embryology.htm>

Has embryological timetable, information and pictures on the primitive heart, Systemic Venous System, Pulmonary Venous System, Atrioventricular Canal, Interatrial Septation, Ventricular Septation, septation of the outflow tract, development of the pericardial sac, Conduction system, and the aortic arches. Also has animation of early embryological development and a review test. *Rating: 5*

Virtual Library-Developmental Biology

http://sdb.bio.purdue.edu/Other/VL_DB.html

Library of links to subjects such as gametogenesis, morphogenesis, gene regulation and genetics with Index for Organisms, Journals and Publishers. *Rating: 5*

Human Embryology

<http://mickey.utm.edu/EMBRYO/EMBRYO.html>

A lot of information on the development of the heart, lung, liver, digestive system and body cavities in the embryonic stages. *Rating: 5*

Embryology Collaborative

<http://isc.temple.edu/marino/embryo/default.htm>

Provides resources such as PowerPoint presentations, online lectures, animations, text handouts, congenital abnormality case studies and fetal ultrasounds on the development of individual organ system or systems. Also has a search engine available. *Rating: 5*

Embryo Images

http://www.med.unc.edu/embryo_images/

Tutorial of mammalian embryology with 3D-like micrographic images of embryos' body form, musculoskeletal and nervous system, eye, ear, cardiovascular, urogenital, digestive and respiratory system. *Rating: 4*

Embryology Homepage

<http://sprojects.mmip.mcgill.ca/embryology/>

A site complementing Embryology portion of the first-year curriculum at McGill University's Faculty of Medicine including tutorial and overview on early embryonic development, cardiovascular system, urogenital system, and the digestive system. Also has a chronological timeline of development. *Rating: 4*

Sea Urchin Embryology

<http://www.stanford.edu/group/Urchin/contents.html>

Site with one and two-week labs on sea urchin gametes, fertilization, development and support lessons on dilutions, microscopes and information on development and anatomy. *Rating: 4*

Atlas & Database of Human Developmental Anatomy

<http://www.ana.ed.ac.uk/anatomy/database/humat/>

Include a Human Atlas which can be used to identify tissues present in the first 50 days of embryo development that can be viewed either basic anatomical data or in a more detailed format. *Rating: 3*

Dynamics of Development

http://worms.zoology.wisc.edu/embryo_main/embryology_main.html

Contains tutoring modules featuring fish, amphibian and echinoderm development. *Rating: 3*

Genitourinary Development

<http://www.meddean.luc.edu/lumen/MedEd/urology/guhome.htm>

Provides information on congenital genitourinary defects and imaging techniques and development of the bladder, kidney, penis/urethra, scrotum/ testis and ureter. *Rating: 3*

Histology and Embryology Tutorials

<http://alpha.ipfw.edu/histo-embryo/histotut.html>

Tutorials and lessons on the Epithelium, the endocrine system, the urinary, the female reproductive system and the ear and the eye with diagrams for the last two from the Indiana University School of Medicine.

Rating: 3

The Neural Crest

http://www.teaching-biomed.man.ac.uk/student_projects/1999/moran/homepage.html

Describes the formation and development of the neural crest cells, a transient structure present in developing vertebrate embryos. *Rating: 3*

Anatomy of the Human Body

<http://www.bartleby.com/107/index.html#chap2>

Online edition of Henry Gray's 1918's *Anatomy of the Human Body* with a section on embryology. Embryology section is further broken down into specific parts, each with a description and illustration.

Rating: 3

Nervous System Development

http://www.med.unc.edu/embryo_images/unit-nervous/nerv_htms/nervtoc.htm

Images of embryos with parts of the spinal cord, brain, pituitary gland and brain highlighted and information on the nervous system's development given. *Rating: 3*

Early Elephants Used 'Swimming Trunks'

http://news.bbc.co.uk/1/hi/english/sci/tech/newsid_340000/340286.stm

Article explaining new scientific evidence from elephant fetuses that support a theory of elephants have evolved from aquatic ancestors and had used their trunks as snorkels when swimming. Has a picture of a 166 days old elephant fetus. *Rating: 3*

Wings Become Legs

http://news.bbc.co.uk/1/hi/english/sci/tech/newsid_295000/295277.stm

Article on an experiment in which a gene found only in chicken legs were transferred into the forming wing of chicken embryos and a structure resembling a leg formed. The experiment was aimed at acquiring more information about vertebrate limb formation that can be applied to help end genetic mutations and limb defects. *Rating: 3*

Vertebrate Embryology

<http://www.lehman.cuny.edu/depts/biology/aisemberg/Bio268.html>

Site for Bio 268 Vertebrate Embryology class with a lab guide and chapter notes of Scott F. Gilbert's *Developmental Biology* available. *Rating: 3*

Skeletal Development

http://www.findarticles.com/cf_dls/g2602/0004/2602000481/p1/article.jhtml?term=embryo+development

Article on the skeletal development of humans beginning with the embryo and with information on disorders and deficiency diseases of the skeleton, and factors affecting bone growth. *Rating: 2*

Female Uro-Genital System with Open Uterus During Pregnancy

<http://pacs.unica.it/tav24eng.htm>

A picture of the female uro-genital system with open uterus during pregnancy and a short description.

Rating: 2

Institute of Anatomy Department of Medicine Faculty of Science

<http://www.unifr.ch/anatomy/>

Site from the University of Fribourg, Switzerland. Has helpful links on anatomy and 3D anatomy models.

Rating: 2

Embryology of the Face & Jaws

<http://www.dundee.ac.uk/dentalanatomy/e4.htm>

A write-up of a lecture on the embryology of the face and jaws with a series of review questions and answers. *Rating: 2*

Growth of the Fetus and Embryo

http://biology-online.org/7/2_embryo.htm

Brief description of the growth of the fetus and embryo with a search engine and dictionary available for reference. *Rating: 2*

Human Facial Development

<http://www.biomed2.man.ac.uk/ugrad/biomedical/calpage/sproject/rob/robsite.html>

Site focusing on facial development of humans starting in the embryo, with pictures and animations of development from the 4th to 10th week. *Rating: 1*

Development of the Human Heart

<http://www.biomed2.man.ac.uk/ugrad/biomedical/calpage/sproject/daniel/2.html>

Site focusing on developmental anatomy in the case of the heart where changes in circulation occurring at birth can be viewed, and explanations of anatomical and physical defects are available. *Rating: 1*