

Teaching Topic
Medical technology and ethics controversy:
Assisted Reproductive Technologies (ARTs)

Relevant concepts / terms

- Fertility (please refer to <http://www.who.int/reproductivehealth/topics/infertility/en/index.html>)
- Infertility (please refer to <http://www.who.int/topics/infertility/en/>)
- Assisted Reproductive Technologies (ARTs) (please refer to <http://www.who.int/genomics/gender/en/index6.html>)
- In-Vitro Fertilization (IVF) (please refer to http://www.ivfhk.com/index_eng.html)
- Medical technology: Moral considerations in medical research (Web-based Resource Platform for Liberal Studies → L & T Resources → Reading Materials for Relevant Concepts → NSS LS)
- Family (Web-based Resource Platform for Liberal Studies → L & T Resources → Reading Materials for Relevant Concepts → NSS LS)
- Family and kinship (Web-based Resource Platform for Liberal Studies → L & T Resources → Reading Materials for Relevant Concepts → NSS LS)

Suggested questions for enquiry

- For a couple, what factors should be considered before having the childbearing decision? Give two factors and explain.
- What are the benefits and deficiencies brought by Assisted Reproductive Technologies? Do you agree that the use of Assisted Reproductive Technologies should be regulated?
- What are the ethical issues arising from the Assisted Reproductive Technologies? (Hints: gender selection, unequal access to technologies in developed and developing countries, etc.)
- “Hong Kong government should financially support infertile couples to undergo the Assisted Reproductive Technology treatment.” To what extent do you agree with this statement?

Suggested examples for enquiry provided by Resource Package (*Resource Package P.91-92*)

- Misuse of antibiotics: Teachers may use Hong Kong and/or the mainland as examples to help students understand the causes and effects of the misuse of antibiotics (students need not dig deeply into the relevant medical theories), and to examine the possible approaches to remedy this situation.
- Organ transplants and the Chinese traditional concepts: The question to ask is

whether there are sufficient organ donors in society. If there are very few organ donors, through what other channels can organs be obtained for transplant? Is it legal and ethical to obtain organs from such channels? Teachers may consider introducing relevant Chinese traditional concepts (for example, the importance of keeping the remains of the deceased intact) for further discussion.

- Biotechnology: Teachers are advised to select one or two examples for student enquiry. For instance, does biotechnology development lead to improvements for species? Or has it interfered with natural ecological processes? To what extent has such technology benefited human beings? What controversies have been aroused in the spheres of medical development, legal statute, and ethical morality by the advancement of medical technologies such as artificial insemination, the use of surrogate mothers and gender selection of children?

Relevant news/ cases/ data/ commentaries/ pictures (Directly relevant or closely relevant topics)

- Vicki Mathias. (2014, January 2). “‘Natural’ IVF gave Portishead couple their ‘miracle boy’.” *Bristol Post*. Retrieved from <http://www.bristolpost.co.uk/Fertility-Natural-IVF-gave-miracle-boy/story-20390111-detail/story.html>
- Darius Lee. (2013, December 28). “IVF poses significant risks.” *The Straits Times*. Retrieved from <http://www.straitstimes.com/premium/forum-letters/story/ivf-poses-significant-risks-20131228>
- Wang Zhenghua. (2013, December 24). “A return to motherhood at 60.” *Hong Kong Edition, China Daily*.
- Loukas Founten. (2013, December 20). “Adelaide woman allowed to try to have dead husband’s baby.” *ABC News*. Retrieved from <http://www.abc.net.au/news/2013-12-19/adelaide-woman-allowed-to-try-to-have-dead-husband-27s-baby/5167814>
- Lo Wei. (2013, October 31). “Barriers block way towards fertility subsidies.” *South China Morning Post*.
- Christy Choi. (2013, October 31). “Gender-selection trip adverts to be banned.” *South China Morning Post*.
- Eddie Luk. (2013, October, 24). “Subsidies for couples loom to boost births.” *The Standard*.
- Bonnie Miller Rubin and Angie Leventis Lourgou. (2013, Sept 18). “High-tech reproduction gives birth to court case.” *Chicago Times*. Retrieved from http://articles.chicagotribune.com/2013-09-18/health/ct-met-embryo-battle-20130918_1_frozen

-embryos-high-tech-reproduction-court-case

- Elaine Yau. (2013, July 16). "Internal contradictions." *South China Morning Post*.
- Elaine Yau. (2013, July 1). "Infertility is rising in Hong Kong, and the city lacks medical staff in the field." *South China Morning Post*.
- Business Monitor International. (2013, May 28). "Reproductive health firms see opportunities in delayed childbearing." *Business Monitor International*. Retrieved from <http://www.businessmonitor.com/news-and-views/reproductive-health-firms-see-opportunities-in-delayed-childbearing>
- Judith Tan. (2013, Jan 23). "More help for those who can't have kids." *Hong Kong Daily News*.

Learning and teaching materials published by the EDB (Directly relevant or closely relevant topics)

- *Issues of Science, Technology and the Environment in Perspective*, p48-56.

Assessment items (Directly relevant or closely relevant topics)

- Family Planning Policy (ED 10)
- Surrogacy (ED 19)
- The Attitude towards Love in the New Age (ED 38)
- The Household Size of China (EE 10)

Learning objects (Directly relevant or closely relevant topics)

- The Problem of Low Birth Rate (LO_2008_0057c)
- Late Marriage (LO_2008_0049e)
- Cloning (LO_2009_0309e)
- Health Care Reform and Supplementary Health Fund (LO_2009_0293e)

Relevant or comparable examples for enquiry

- To increase the birth rate, the Singaporean government has launched several schemes to encourage couples to have babies such as offering a tax rebate to families who have more children, deciding to co-fund the assisted reproductive technology treatment for the needy couples and so on.
(The Independent. (2013, December, 31). "From 'a baby every seven minutes' to 'silver tsunami'." *The Independent Singapore*. Retrieved from <http://theindependent.sg/from-a-baby-every-seven-minutes-to-silver-tsunami/>)
- New techniques are being employed by scientists to ensure healthier children.

One of the controversial methods is called “three-parent IVF” which technically creates an embryo from three parents, although 99 percent of the DNA comes from the mother and father, and 1 percent comes from the egg donor. This controversial method aims to prevent mitochondrial diseases which are often fatal mutations that lead to failures in the energy centers in cells called mitochondria.

(Michelle Castillo. (2013, October, 15). “Report: 5 million babies born thanks to assisted reproductive technologies.” *CBSNews.com*. Retrieved from <http://www.cbsnews.com/news/report-5-million-babies-born-thanks-to-assisted-reproductive-technologies/>)

- The Florida Supreme Court recognized for the first time that a child born from the aid of assisted reproductive technology can have two legal mothers. The court recognized that there is no rational basis for differential treatment of same-sex and different-sex parents, and that children benefit from having two loving parents in their lives regardless of the parents’ genders. This case has been considered important for all families formed by lesbian and gay couples. (Daniel Tilley. (2014, Jan 3). “D.M.T. v T.M.H: Breaking Down Barriers to Same-Sex Parenthood.” *Jurist*. Retrieved from <http://jurist.org/sidebar/2014/01/daniel-tilley-florida-art.php>)

Other resources

- Census and Statistics Department. (2013 December). *The Fertility Trend in Hong Kong*. The Government of the Hong Kong Special Administrative Region. Retrieved from <http://www.censtatd.gov.hk/hkstat/sub/sp160.jsp?productCode=FA100090>
- Council on Human Reproductive Technology. http://www.chrt.org.hk/english/aboutus/aboutus_int.html
- Singer, Dani, & Hunter, Myra. (2003). *Assisted Human Reproduction: Psychological and Ethical Dilemmas*. London: Whurr. (Hong Kong Public Libraries Call Number: 176 ASS)
- Department of Health, HKSAR. <http://www.dh.gov.hk/>
- Vayena, E., Peterson, H. B., Adamson, D., & Nygren, K. G. (2009). “Assisted reproductive technology in developing countries: are we caring yet? ” *Fertility and Sterility*, 92(2), 413-416. Retrieved from http://psych.cf.ac.uk/esrcfertilitynetwork/pubs/Nygren_Assisted%20reproductive%20technologies%20in%20developing.pdf
- Schenker, Joseph G. (2011). *Ethical Dilemma in Assisted Reproductive Technologies*. Berlin/Boston: Walter de Gruyter GmbH & Co. KG.
- Mundy, Liza. (2008). *Everything Conceivable: How Assisted Reproduction is*

Changing Men, Women, and the World. London: Penguin Press. (Hong Kong Public Libraries Call Number:362.196692 MUN)

- The Assisted Reproductive Technology unit (IVFHK) of the Department of Obstetrics and Gynaecology, The Prince of Wales Hospital and the Chinese University of Hong Kong. http://www.ivfhk.com/index_eng.html.
- World Health Organization. <http://www.who.int/>
- Winkler, Kathleen. (2006). *High-tech Babies: The Debate over Assisted Reproductive Technology.* Berkeley Heights, NJ: Enslow Publishers. (Hong Kong Public Libraries Call Number: 618.178 WIN)