Annotated Bibliography: The Ethics of Face Transplantation  
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1. Harriet Kiwanuka, *et al.* Evolution of Ethical Debate on Face Transplantation. *Plastic and Reconstructive Surgery*. 2013. 132 (6): 1558-67.

**Summary**: This article, written by authors out of Brigham and Women’s Hospital analyzes and reviews the literature to date on the topic of facial transplantation. They report statistics looking at the varied ethical issues raised over time (before/after the first face transplant) and how discussion has changed. They then discuss three of the most controversial topics in the literature, including the topic of identity in face transplant patients, patient selection and the risks/benefits of transplantation. They also identify future issues of debate including the role of ethnicity, allocation and gender matching.

**Assessment**: This is a great up to date starting point to look at what issues have been discussed in the literature since the idea of transplanting faces was first conceived. It acts both as a resource for finding other articles written on the subject and as a source to examine some of the most controversial topics. The authors discuss both sides of the topics but also support their own institutions policies (specifically transplanting faces in the blind).

**Reflection**: Although it does not go into too much detail surrounding the many debated topics in face transplantation I think this resource serves a good starting point for anyone looking to read more on the topic.

1. Charles Brown, *et al.* Ethical Considerations in Face Transplantation. *International Journal of Surgery*. 2007. 5: 353-64.

**Summary**: This article provides a look at the state of the ethical debate in facial transplantation just after the first transplant occurred in 2005. It discusses key historical events in the debate including how hand transplants lead to the possibility of face transplants and the Louisville guidelines/criteria to determine if moving forward with a transplant. It also provides a timeline in table format showing key events and publications in the face transplant debate. The authors then go on to discuss the key arguments against transplantation including the question of rejections rates/risk, patient selection, exit strategy (should transplant not work) and societal implications.

**Assessment**: This is also a good starting article when looking at the ethics of face transplantation. It was written shortly after the first face transplant was completed but addresses many of the key issues leading up to the first transplant. It goes into good detail regarding the history of hand transplants and how they played a role in face transplants. It also delves into what issues were most crucial at the time to those for and against transplants.

**Reflection**: I found this article to be useful mostly from a historical perspective. It gives a good discussion of how hand transplants led to face transplants and then goes into good detail into the ethical debate. It also includes a good summary of the Louisville guidelines which have been central to the debate.

1. Huxtable R., Woodley, J. (When) will they have faces? A response to Agich and Siemionov. *Journal of Medical Ethics*. 2006; 32:403-404.

**Summary**: This article argues that facial transplants aren’t “clinically needed.” They state that there has been no correlation between extent of disfigurement and suffering of an individual. They then identify a catch 22 related to patient selection and screening. The idea that those who are most psychologically sound are likely to turn down such a radical procedure because they are psychologically sound and are thus content with their current appearance. Versus those who are severely affected by their disfigurement may not pass the psychological screening in the first place. They then question the role of society and how it may be sending signals to disfigured individuals to “normalize” and how once the surgery is offered it may become an expectation.

**Assessment**: From the perspective of medical ethicists, these authors take pro-transplant arguments in another article and counter them. It is a good paper addressing a few key issues including psychological screening and the role of society in the ethical debate of facial transplant. It was written right around the time when the first transplant was just being completed.

**Reflection:** I think they bring up a good point with their catch 22 theory. It is likely that those most psychologically sound are those that are more likely to not want a transplant. It will be crucial to use validated correct screening measures to find the ideal candidate.

1. Morris, P. *et al.* Facial Transplantation: A Working Party Report from the Royal College of Surgeons of England. *Transplantation*. 2004; 77(3):330-338.

**Summary:** This articleaddresses the concept and possibility of face transplantation via discussing current evidence available at the time. This was done in response to the British charity, “Changing Faces” who wanted the Royal College of Surgeons of England’s to “attempt to create a moratorium on further media coverage of [face transplantation].” They discuss four main areas in the debate: technical, immunologic, psychological and societal aspects –including a discussion on the impact of the recipient’s family, something that had not previously been discussed. They conclude with a lengthy discussion on the ethical and legal problems with regards to facial transplantation. They mainly discuss consent, both outlining its definition in surgery in general and then applying it to the facial transplantation debate. Importantly, they discuss the experimental nature of facial transplantation (having unknown risks) and how this plays a role in consent. They conclude that further research into the risks is needed before going forward with transplantation.

**Assessment:** This is a frequently referenced paper in the facial transplantation debate that was written prior to the first transplant being performed. It is comprehensive and gives a great outline of the surgical techniques and then the ethical problems foreseen prior to facial transplantation being an offered surgery. It offers a great in depth analysis of consent and how important it is in any surgeon-patient relationship and then ties it into the facial transplant debate.

**Reflection:** I found this article to be well written and non-biased in terms of the debate. They conclude that more research is needed which I think was the correct thinking at the time given the lack of known risks and how that plays with consent.

1. Freeman, M. Jaoude, P. Justifying surgery’s last taboo: the ethics of face transplants. *Journal of Medical Ethics*. 2007; 33:77-81.

**Summary:** This article, addresses the facial transplant debate from three different perspectives—the recipient, the donor family and then the disfigured community and society. Written shortly after the first transplant occurred, this article takes an overall negative approach to the topic and at times makes some fairly bold statements. The authors start off discussing the psyche of the disfigured patient and make the assumption that their psyche may be weak thus leading to “a desperate, compulsive desire to alleviate their suffering.” They also bring up the idea that there may be possible “trauma” in adjusting to a new identity. The point about consent in those who may be psychologically impaired is also brought up and questioned. From the perspective of the donor and their families they bring up a few issues regarding anonymity and also the motivation of the donor. They even suggest some may use donation as an opportunity to “haunt family, friends and colleagues.” The end by discussing the disfigured community and define it as a social construct.

**Assessment:** This article was clearly written against face transplantation. Its organization from three perspectives is good but the authors make some unique and somewhat bold statements as mentioned above. Overall it wasn’t very helpful but could be of use if one is looking for what some of the arguments against facial transplants.

**Reflection:**  I personally found this article to be comedic based on how far the authors took some theoretical scenarios if face transplants were to happen. It was certainly interesting to read.

1. Johnson, S. Corsten, M. Facial Transplantation in a new era: what are the ethical complications? *Current Opinion in Otolaryngology & Head and Neck Surgery*. 2009; 17:274-278.

**Summary:** This article starts off by giving a great background and summary on the ethical debate on face transplants. Published in 2009, five successful transplants had occurred when written. It then goes on to discuss the ethical concerns in facial transplants using the basic bioethics principals of autonomy, beneficence, nonmaleficence and informed consent as a guide. For autonomy they discuss the “catch 22” first brought up by Huxtable and Woodley (see above) and also that these issues can likely be “mitigated by careful patient selection, ongoing monitoring, and psychiatric intervention.” In terms of beneficence, the authors bring up a good point that these transplants aren’t solely intended for aesthetics and that they often help improve functions such as feeding, speech and airways. Additionally they note that previously, multiple operations would be needed to improve these functions while with face transplants it can be done in one surgery. They then address the various risks associated with face transplants in the context of nonmaleficence and end with a summary of the role of informed consent. They conclude that face transplants are now a reality and that further experience will help remedy the ethical dilemmas and that ultimately it’s the physician’s responsibility to “give patients and their families the appropriate tools to make an informed, autonomous decision...”

**Assessment:** This is a concise, well written article that fairly assesses the ethical concerns regarding face transplants. The author’s use of the key bioethical principals of autonomy, beneficence, nonmaleficence and informed consent in guiding their discussion is well done and works well. Overall it is a great article and a good starting point if wanted to learn about both the background of the debate and where things stood after the first handful of transplants occurred. It also serves as a good review in understanding bioethical principals.

**Reflection:** I really enjoyed this article. I liked its organization using the context of the main bioethical principals. The background and history also summarizes the key papers and views early on in the debate which his helpful. They also note in their reference section which articles are of special/outstanding interest to read in the debate which I found helpful.

1. Barker, J. *et al.* Ethical Considerations in Human Facial Tissue Allostransplantation. *Annals of Plastic Surgery*. 2008; 60(1): 103-109.

**Summary**: This article was written to make plastic surgeons more aware of the ethical debate involved in face transplants as the majority of literature was published in ethics journals. It includes a summary of the Louisville ethical guidelines for hand transplants and then reviews 8 of the most commonly cited articles in response to the Louisville guidelines. They discuss rejection rates, immunosuppression toxicity risks, the role of donation, patient selection, exit strategy, functional recovery and societal/psychological implications. They conclude that since a few clinical cases were performed to date with early positive outcomes that the debate was turning towards pro-face transplants. They also mention that the Royal College of Surgeons also updated their view to being pro-transplant if certain minimum requirements were met and it occurs in a regulated research setting.

**Assessment**: This is a decent article reviewing the many of the key arguments for and against facial transplantation. It doesn’t go in to great detail but provides a good overview on the topic. Like many of the other articles it concludes that facial transplants are a clinical reality and that the ethical debate will evolve as more evidence is collected following transplants.

**Reflection**: Although a good summary, I didn’t find that this article really added anything new to the whole picture of the ethical debate in face transplants. The authors simply summarized what was out there but didn’t really discuss it as much as I had hoped (especially from the perspective of a plastic surgeon).

1. Vasilic, D. *et al.* Plastic Surgeon’s Risk Acceptance in Facial Transplantation. *Plastic and Reconstructive Surgery*. 2008; 121(3):41-48.

**Summary:** This article summarizes the results of a survey given to various groups to establish the amount of risk certain individuals would be willing to take for various non-life saving transplant treatments. They used a psychometrically reliable and validated survey that assessed time-trade off (willingness to lose years of life for health living years) and the “standard gamble” (accepting risk for certain chances of success). The groups used were individuals with facial disfigurement, kidney transplant recipients, reconstructive surgeons, transplant specialists, and health volunteer controls. They found that healthy volunteers would accept the most amount of risk, followed by health volunteers, and then kidney transplant recipients, and transplant specialists. Reconstructive surgeons accepted the least amount of risk.

**Assessment:** This is an important article which was referenced many times in many ethics papers debating the risks and benefits of face transplants. It established that point that disfigured patients are likely to accept high risk to achieve years of improved quality of life while the surgeons likely to perform and manage the transplants were more hesitant. The authors point out that this was mostly due to the surgeons not accepting the risk of rejection over the possible benefits.

**Reflection:** I thought this was a helpful paper to include because its strong influence in the debate early on assessing the risk benefit ration for all parties involved in face transplants. It provides some objective data to the debate instead of relying on subjective opinions or speculation.

1. Coffman, K. Siemionow, M. Ethics of facial transplantation revisited. *Current Opinion in Organ Transplant*. 2014; 19(00).

**Summary:** This article assesses the current state of the ethical debate for face transplants after 26 procedures have occurred and identifies current gaps in knowledge. It begins by stating that the mortality rate so far is 11.5% as 3 patients have died (this is on par with most solid organ transplants. They then use ethical principles of autonomy, beneficence, nonmaleficence, dignity and justice to guide their discussion. In terms of autonomy they identify the main risks for the procedure to be the risk of anesthesia, long surgery time/blood transfusions, infections, rejection and cancer risk. They report that there have been no known cases of hyperacute rejection, chronic rejection or graft vs. host disease. The risk of acute rejection has been higher than other organ transplants. They identify 1 patient who developed life-threatening PTLD (post transplant lymphoproliferative disorder) and two others that developed cancer post-transplant. In terms of beneficence they bring up the important role of protecting the patient’s privacy and handling the media during the transplant process. They also emphasize the importance of patient selection and the role of prescreening with psychological surveys in order to maximize best outcomes. The authors conclude that there has been little data establishing the psychological and functional outcomes in face transplants and how this would be helpful. Further assessment of cancer risk will be necessary to determine accurate risks and whether the benefit outweighs them.

**Assessment:** This was a well written article which includes some updated statistics based on the 26 face transplants so far. It includes a table listing all of the successful transplants (cause of disfigurement, and what was transplanted). Most importantly included in this article are the statistics on mortality rate and malignancy risk which will affect the future risk/benefit discussion in the debate. As time goes on, the cancer risk will be further defined but at this time it seems to be on par with solid organ transplant.

**Reflection:** I thought this was a useful article as it provides good updated information on the risks of face transplants. The risk of PTLD is currently on par with other solid organ transplants but does this risk outweigh the benefit for a non-life saving procedure? I agree with the authors that more data is needed on outcomes especially from a psychological and functional perspective which will be greatly beneficial for further risk assessment.

1. Coffman, K. Siemionow, M. Face Transplantation: Psychological Outcomes at Three-Year Follow-up. *Psychosomatics.* 2013; 54:372-378.

**Summary:** This article reports psychological outcome data based on one facial transplant patient. It begins by discussion of the contrasts between face and solid organ transplants with regards to rejection, infection and psychological issues. To get objective pre and post-transplant data on psychological outcomes they combined multiple different rating instruments to look at self-rated body image, mood changes, perception in teasing, quality of life, self-esteem and social reintegration three years after transplantation. The tools used were the teasing-FACES survey, facial anxiety scale state and the Cleveland Clinic FACES score (similar to a meld score). They found that there were improvements in depression, quality of life and social reintegration with little changes in self-esteem or sexual functioning. They conclude that a major limitation of their study is that it was based on one 1 patient and that further objective standardized data collection would be helpful for further research to help determine if the risks of face transplant are worth it.

**Assessment:** This is one of the only studies addressing psychological outcomes in a facial transplant patient. Although it only studies one patient it is a good starting point that showed that there are some psychosocial benefits to having the procedure. It gives a good explanation of the different assessment rating scales used which I found to be useful. It also discusses the patient in great detail which helped shed some light on the types of patients going through with the face transplants.

**Reflection:** I thought this article was important to include because of its importance in determining the risks and benefits of face transplants. Although it shows that there were improvements in some areas it would be nice to have the data from other patients using the same assessments.