

Facing the future

There's a hesitation from my part, thinking that I would be wearing another face that didn't belong to me... But when I look at it logically, it is 2002, this is going to happen...here I am, with this hole in my head, and if I thought that I could be made whole, with all these complications taken away from me that I have to face every day, then I would go for it. (Christine Piff, facial transplant candidate, talking to BBC News online, 27 November 2002)



PENNY J. FURNESS considers the psychosocial issues surrounding facial transplants.

ADVANCES in microsurgical techniques will soon allow those whose faces have been severely disfigured by disease or injury to be offered a face transplant. But plastic surgeons have raised the need for an ethical debate before any such procedures are carried out in humans. Peter Butler, consultant plastic surgeon at London's Royal Free Hospital, has said: 'It is not "Can we do it?", but "Should we do it?".' ('Face transplants "on the horizon"', 2002). Transplants may help overcome some of the physiological consequences associated with more traditional facial surgery, but it is worth considering the psychological implications of facial transplantation.

Who's first on the operating table?

The first potential area of involvement for psychologists in facial transplants could be in deciding who is eligible – and dealing with the distress of those who are told they are not. Butler estimates that only 10 or 15 people would presently be considered eligible for transplant in the UK ('Face

transplants "on the horizon"', 2002). It is not clear to what extent eligibility might be based on health grounds, as opposed to cosmetic considerations. Health benefits include restoring the skin surface to prevent infection and minimise fluid loss, and to maximise function in the area. Cosmetic arguments focus on the reduction of scar tissue and improvement in appearance-related quality of life. The few published articles on the subject of facial transplantation discuss its use for primarily cosmetic reasons – for example, Eduardo Bermudez *et al.* (2002) believe transplantation represents an improvement over flap reconstruction for reasons of skin quality.

If cosmetic considerations are the major concern, common sense might suggest that only those most severely or extensively disfigured be considered for transplant, since they are at greatest risk of long-term distress. Situations could arise in which people with what may appear to the observer to be a relatively minor impairment put themselves forward for facial transplantation. Will they be turned away by surgeons? Research with disfigured populations has failed to find a clear association between disfigurement severity and psychological sequelae. For example, objective measures of disfigurement do not seem to predict how successfully an individual will come to terms with altered appearance (Bradbury, 1996; Kleve & Robinson, 1999; Lansdown *et al.*, 1991). Instead, the adjustment process appears to be more influenced by personality attributes, such as self-esteem (Cash & Pruzinsky, 1990; Heidrich & Ward, 1992), resilience (Bradbury, 1996), coping strategies (Kent, 2000), and social support availability and quality (Kugaya *et al.*, 1999; Robinson *et al.*, 1996).

These research findings suggest that deciding eligibility will be more complicated than assessing a person simply

on the severity of their disfigurement, and should take into consideration a variety of psychosocial variables. In this case, who is qualified to make the decision and act as gatekeeper? Candidates for gender reassignment (another form of life- and identity-altering surgery) put themselves forward for the surgery, and a lengthy process of psychological assessment, counselling and information-giving is followed before any surgery can be carried out (Grimshaw, 1998). In the case of the disfigured adult, eligibility for facial transplantation could be established, and the individual prepared, following similar procedures.

The issue of facial transplantation in children has yet to be raised. It could be argued that transplant surgery in childhood following, for example, severe burn injury, would reduce the psychosocial problems reported amongst facially disfigured children and adolescents, such as bullying and stigmatisation (Walters, 1997). However, if decisions about adult facial transplantation are complex and require thorough psychological assessment, how would these decisions be achieved in the case of the facially injured child?

Decisions about gender assignment in young children born with anatomical abnormalities are achieved between parents and medical experts, based on the perceived long-term well-being of the child. But this established process is not without complications. Ethical conflicts arise where parents and professionals disagree (Rossiter & Diehl, 1998), controversy exists about the timing of decisions, and the impact upon the children and their gender identity as they develop into adults is unclear (Schober *et al.*, 2002). Body satisfaction is a similarly subjective construct, so decisions made on behalf of facially injured children would require very careful consideration. Research into the long-term viability of

WEBLINKS

Let's Face It network for the facially different:

www.letsfaceit.force9.co.uk

British Association of Plastic Surgeons:

www.baps.co.uk

Centre for Appearance and Disfigurement

Research: www.uwe.ac.uk/research/centres/cadr.shtml

Changing Faces charity: www.changingfaces.co.uk

transplants and how they might grow and develop with the recipient would seem essential.

Difficult decisions at a difficult time

In common with organ transplants, in which scarcity of donors is a problem, it is likely that those few who meet eligibility criteria will then be faced by a lengthy wait. Eventually they may have tricky choices to make about matches. Recipients of internal organs can generally be guided by their surgeons regarding suitability of the donor, but when it is a new face that a person is receiving, more has to be considered than physical suitability. These considerations may include, for example, the respective ages of donor and recipient, size and shape of face, the colour and tone of both skin and facial hair, and attractiveness – how happy will the recipient be to spend the rest of their lives living with the donor face?

An individual and their loved ones could find themselves in the position of having to make such life-altering choices in the immediate aftermath of cancer diagnosis or traumatic injury. Psychological and physical trauma is often followed by a period of shock, characterised by numbness and a sense of detachment from the situation (Calhoun & Atkeson, 1991), which serves to reduce distress and anxiety at a time when coping resources are insufficient to meet the demands imposed (Suls & Fletcher, 1985). Given the speed with which decisions about transplants and the transplants themselves must be made, it begs the question: How many of these rapid decisions made in difficult circumstances would become a source of regret?

For those individuals who make it through the process of assessment, decision making and surgery, further issues arise, including postoperative treatment, the sustained recovery and function of the graft and psychological implications. The fact that human hands have been successfully transplanted has been used to argue the case for facial transplants (Eduardo Bermudez, 2002). However, the long-term outcomes, for the health and function of the transplants themselves and the psychological effects on the recipients, have yet to be established. One published report reviewing the case of the first transplanted hand indicates that the physical and psychological outcomes have been negative ('Hand transplant recipient throws in the towel', 2002). The detrimental

SCIENCE PHOTO LIBRARY

effects of immunosuppressant medication, a gradual deterioration in the appearance of the hand and a sense of physical and psychic detachment from it compromised the recipient's quality of life and the hand has since been amputated.

It would seem sensible to wait for a clearer and more positive picture of recovery from hand transplants before taking the next step into face transplants. When considering the long-term psychosocial adjustment of the transplant survivor, I suggest that existing knowledge in the field of disfigurement theory and research may be relevant for those with transplanted faces.

Learning from disfigurement

Research indicates that one of the main tasks for the person disfigured in adulthood

is the assimilation of the altered appearance into a personal identity that has taken many years to develop and mature. This would be no less true for the person who suddenly, through disease or injury and subsequent transplant, acquires a new intact face. The face is the most obvious expression of our individuality and sense of personal and family identity (Bradbury, 1996). It is the means by which we communicate with others, and the basis upon which other people's first impressions and judgements of us are formed (Cole, 2001). No less than the disfigured person, the person with a face transplant will have to undergo a process of mourning for the face they have lost (Partridge, 1994).

Furthermore, traditional methods use a gradual approach to facial reconstruction, with repeated surgical interventions as the

THE MEDICAL HISTORY

The current method of facial reconstructive surgery involves using skin grafts or tissue flaps from elsewhere on the body, such as the back. But reconstructing the face in this way can produce unsatisfactory results, since the quality of facial skin differs from other areas. Within the last few years whole human hands have been successfully transplanted, and it has been suggested that similar methods of composite tissue transplantation, including skin and muscle and possibly hair, might be used for facial reconstruction. In 1998 Thomas *et al.* successfully carried out a total face replantation, in which the face and scalp of an 11-year-old girl were surgically replanted after they were torn off in a work accident. Most recently Eduardo Bermudez *et al.* (2002) describe the procedure for facial transplantation from donor to recipient in dogs. Whilst such operations may be technically feasible, rates of rejection and infection are high in all forms of transplantation, and the chronic use of harmful immunosuppressant drugs and antibiotics is routine.

effects of previous operations settle, reposition or fail. This process is highly disruptive and associated with pain, rehabilitation and lengthy hospital stays. However, the fact that it takes place over months and years following the initial event allows alterations in the appearance and identity to be assimilated slowly. Horowitz (1986) states that successful adaptation to major life-changing events relies on the gradual processing of associated information and implications, a process arguably supported by current surgical practices. In contrast, facial transplants would create a permanent, complete change of appearance overnight, with as yet unknown implications for long-term psychological adjustment. The above-mentioned hand-transplant recipient was clearly unable to identify with his new hand – inability to adjust to a new facial identity may have serious ramifications for psychological health.

One of the greatest difficulties faced by individuals with facial disfigurements is the management of social encounters. Evidence suggests that the combination of societal reactions to unusual appearance and changes in confidence and self-consciousness after facial surgery can disturb the smooth operation of interpersonal relations (Lansdown *et al.*, 1997; Robinson, 1997). Problematic encounters with strangers appear to generate the greatest anxiety and represent an ongoing threat to emotional adjustment (Bradbury, 1996; Lansdown *et al.*, 1997). Since facial transplant recipients may display fewer outward signs of their surgery, it could be argued that one of the greatest potential benefits of facial transplantation is the reduction of adverse reactions and alleviation of social difficulties.

However, one also needs to consider the implications of acquiring a totally new face for the close relationships enjoyed by that individual. Research indicates that altered appearance can affect marriages and other close relationships (Kent, 2000). Family members and loved ones often experience shock, distress and adjustment difficulties similar to the disfigured individual. In the majority of cases, significant others and close friends continue to accept and love the individual despite their damaged appearance (Lansdown *et al.*, 1997) – the damaged face is still recognisable, the loved and familiar person is still there. It is debatable whether parents, partners and children would face problems coming to terms with the completely altered

appearance of their loved one with a facial transplant. Social support, particularly the sense of belonging and being loved, accepted and valued by close family and friends, is crucial to successful adaptation to trauma and life events. In addition, in cases where ‘survivors’ report positive outcomes of living with disfigurement,

‘Inability to adjust to a new facial identity may have serious ramifications for psychological health’

most of these benefits are linked to improvements in, and greater awareness of, the quality of supportive relationships (Lansdown *et al.*, 1997). Careful consideration needs to be given to the danger of alienating these valuable sources of long-term support and well-being.

I am currently researching the process and correlates of individual and spousal adjustment to disfiguring facial injury and

surgery. Much of the literature surrounding disfigurement is relevant to the facial transplantation debate, but many questions remain unanswered. This article has merely touched on a few of the possible psychosocial implications of facial transplantation. It is vital that the potential benefits and pitfalls be thoroughly explored, discussed and researched before this form of surgery takes place.

Psychologists could play a valuable role in informing this necessary debate, and ensuring psychosocial implications are fully considered by clinicians before any action is taken. In addition, psychologists will have a crucial role to play both before and after individual cases of facial transplantation, in screening potential candidates for psychosocial risk factors, and in helping and supporting recipients and their families through the complex process of emotional rehabilitation.

■ Penny J. Furness is a PhD student in the School of Community Health Sciences, University of Nottingham. E-mail: penny.furness@nottingham.ac.uk.

References

- Bradbury, E. (1996). *Counselling people with disfigurement*. Leicester: BPS Books.
- Calhoun, L.G. & Atkeson, B.M. (1991). *Treatment of rape victims*. New York: Pergamon.
- Cash, T.F. & Pruzinsky, T. (1990). *Body images: Development, deviance and change*. New York: Guilford Press.
- Cole, J. (2001). Empathy needs a face. *Journal of Consciousness Studies*, 8, 51–68.
- Eduardo Bermudez, L., Santamaria, A., Romero, T. & Caldero, D.F. (2002). Experimental model of facial transplant. *Plastic and Reconstructive Surgery*, 110, 1374–1375.
- Face transplants ‘on the horizon’ (2002, 27 November). BBC News. Retrieved 24 April 2003 from news.bbc.co.uk/1/hi/health/2516181.stm
- Grimshaw, R. (1998). When two souls meet. *Nursing Standard*, 12(36), 26–27.
- Hand transplant recipient throws in the towel (2002). *Hastings Center Report*, 31, 6–7.
- Heidrich, S. & Ward, S. (1992). The role of the self in adjustment to cancer in elderly women. *Oncology Nursing Forum*, 19, 1491–1496.
- Horowitz, M.J. (1986). Stress-response syndromes: A review of posttraumatic and adjustment disorders. *Hospital and Community Psychiatry*, 37, 241–249.
- Kent, G. (2000). Understanding the experiences of people with disfigurements: An integration of four models of social and psychological functioning. *Psychology, Health and Medicine*, 5(2), 117–129.
- Kleve, L. & Robinson, E. (1999). A survey of psychological need amongst burn-injured patients. *Burns*, 25, 575–579.
- Kugaya, A., Akechi, T., Okamura, H., Mikami, I. & Uchitomi, Y. (1999). Correlates of depressed mood in ambulatory head and neck cancer patients. *Psycho-Oncology*, 8, 494–499.
- Lansdown, R., Lloyd, J. & Hunter, J. (1991). Facial deformity in childhood: Severity and psychological adjustment. *Child Care, Health and Development*, 17, 165–171.
- Lansdown, R., Rumsey, N., Bradbury, E., Carr, T. & Partridge, J. (Eds.) (1997). *Visibly different: Coping with disfigurement*. Oxford: Butterworth Heinemann.
- Partridge, J. (1994). *Changing faces: The challenge of facial disfigurement*. London: Penguin.
- Robinson, E. (1997). Psychological research on visible differences in adults. In R. Lansdown *et al.* (Eds.) *Visibly different: Coping with disfigurement* (pp.102–111). Oxford: Butterworth Heinemann.
- Robinson, E., Rumsey, N. & Partridge, J. (1996). An evaluation of the impact of social skills training for facially disfigured people. *British Journal of Plastic Surgery*, 49, 281–289.
- Rossiter, K. & Diehl, S. (1998). Gender reassignment in children: Ethical conflicts in surrogate decision making (a comment). *Pediatric Nursing*, 24(1), 59–62.
- Schober, J., Carmichael, P.A., Hines, M. & Ransley, P.G. (2002). The ultimate challenge of cloacal exstrophy. *Journal of Urology*, 167, 300–304.
- Suls, J. & Fletcher, B. (1985). Self-attention, life stress and illness: A prospective study. *Psychosomatic Medicine*, 47, 460–481.
- Thomas, A., Obed, V., Murarka, A. & Malhotra, G. (1998). Total face and scalp replantation. *Plastic and Reconstructive Surgery*, 102, 2085–2087.
- Walters, E. (1997). Problems faced by children and families living with visible differences. In R. Lansdown *et al.* (Eds.) *Visibly different: Coping with disfigurement* (pp.112–120). Oxford: Butterworth Heinemann.