Face transplantation

Clinical Policy ID: CCP.1438

Recent review date: 11/2025

Next review date: 3/2027

Policy contains: Face transplantation; vascularized composite allograft.

First Choice VIP Care has developed clinical policies to assist with making coverage determinations. First Choice VIP Care's clinical policies are based on guidelines from established industry sources, such as the Centers for Medicare & Medicaid Services (CMS), state regulatory agencies, the American Medical Association (AMA), medical specialty professional societies, and peer-reviewed professional literature. These clinical policies along with other sources, such as plan benefits and state and federal laws and regulatory requirements, including any state- or plan-specific definition of "medically necessary," and the specific facts of the particular situation are considered by First Choice VIP Care, on a case by case basis, when making coverage determinations. In the event of conflict between this clinical policy and plan benefits and/or state or federal laws and/or regulatory requirements, the plan benefits and/or state and federal laws and/or regulatory requirements shall control. First Choice VIP Care's clinical policies are for informational purposes only and not intended as medical advice or to direct treatment. Physicians and other health care providers are solely responsible for the treatment decisions for their patients. First Choice VIP Care's clinical policies are reflective of evidence-based medicine at the time of review. As medical science evolves, First Choice VIP Care will update its clinical policies as necessary. First Choice VIP Care's clinical policies are not guarantees of payment.

Coverage policy

Face transplantation is investigational/not clinically proven and, therefore, not medically necessary.

Limitations

No limitations were identified during the writing of this policy.

Alternative covered services

Plastic reconstruction surgery.

Background

Face transplantation is a type of vascularized composite allograft procedure that replaces part or all of a person's facial components by using deceased donor tissue and/or allografted tissue. It was developed as a reconstructive option for severe cases of facial disfigurement to regain form and function. Traditional reconstructive and face transplant procedures have distinct risk-benefit profiles. For example, face transplants may achieve superior aesthetic and functional outcomes and require fewer initial surgeries compared to conventional reconstruction.

Risks include chronic rejection, side effects of life-long immunosuppressive therapy, altered appearance, and additional surgeries to address complications (Noel, 2024).

Because the procedure is complex and high-risk, candidates undergo exhaustive physical and psychologic screening by the facial transplant team to determine muscle and nerve health and size, and the status of nerve regrowth and function essential for facial movement. Candidates and their support systems are evaluated on their ability to adhere to the recovery requirements for immunosuppressant therapy, rehabilitation, follow-up visits, and subsequent surgeries, if needed (Noel, 2024).

In the United States, face transplants have been carried out in five programs. For data collected through 2022, 11 face transplants were performed with no graft failures reported. The median waiting time for a face transplant was 342 days (Hernandez, 2024).

Face transplants involve plastic surgery, which is a surgical specialty dedicated to correcting functional impairments of the face and body caused by congenital defects, developmental abnormalities, trauma, burns, infection, tumors, and disease (American Board of Cosmetic Surgery, 2025; American Society of Plastic Surgeons, 2025). A functional impairment is a direct and measurable reduction in physical performance of an organ or body part. Plastic surgery is generally performed to improve function but may also be done to approximate a normal appearance (American Board of Cosmetic Surgery, 2025; American Society of Plastic Surgeons, 2025).

Findings

Face transplants may improve quality of life and psychosocial recovery, but the evidence of medical necessity is lacking in several aspects. Only a small number of procedures has been performed, and long-term data are limited. Neither face transplant protocols nor facial transplant-specific patient-reported outcome measures have been standardized (Cavaliere, 2024; Coombs, 2022; Fullerton, 2022; Hadjiandreou, 2024; Huelsboemer, 2024). There is little consensus on criteria for selecting candidates for face transplant, and selection remains heavily dependent on physicians or programs (Parker, 2022). A lack of data sharing across worldwide institutions further hampers the ability to quantify outcomes. Successful outcomes will depend on several factors, such as patient selection, multidisciplinary collaboration, psychiatric evaluation, and post-operative care (Cavaliere, 2024).

Guidelines

The American Academy of Facial Plastic and Reconstructive Surgery, Inc. (undated) states that face transplants should be reserved for individuals whose faces are severely disfigured, who have failed all other options, and are emotionally healthy enough for the surgery, lengthy rehabilitation, a change in identity, and long-term immunosuppressive maintenance. The complex surgery requires a multidisciplinary team of experienced surgeons and professionals to provide supportive care.

As vascularized composite allografts, face transplants are subject to policies, bylaws, and management and membership policies of the Organ Procurement and Transplantation Network (2025) and individual local programs. However, local protocols are not standardized. For the first 44 face transplant cases, the proportion in which institutional protocols existed was 61% (antimicrobial prophylaxis), 75% (immunosuppressive induction), 73% (maintenance immunosuppression), 70% (graft surveillance), 70% (medical management of rejection), and 43% (surgical salvage strategies to manage graft failure) (Daneshgaran, 2019).

Evidence review

Evidence from systematic reviews and large scoping reviews profiles the typical face transplant recipient—predominantly men (80%) with a mean age of 31 years. The most common mechanisms of injury were ballistic trauma (44.6%) and burns (25.5%) (Cavaliere, 2024; Hadjiandreou, 2024). Face transplants improve quality of

life and psychosocial recovery, but there is also a high incidence of significant complications associated with facial transplant procedures including rejection, malignancies, metabolic and infective complications, immunosuppression-related complications, and mortality, and additional surgeries are often needed (Cavaliere, 2024; Coombs, 2022; Hadjiandreou, 2024; Huelsboemer, 2024). Post-surgical quality of life and social interactions often depend on pre-existing conditions and psychiatric comorbidities (Cavaliere, 2024; Hadjiandreou, 2024)

Cavaliere (2024) summarized long-term outcomes in face transplant recipients. A total of 48 face transplant procedures (51% partial and 49% full) have been performed worldwide from 2005 to January 2023, of whom 23 were followed for at least three years. Recipients were predominantly men (80%) with a mean age of 31 ± 12.6 years. The most common mechanisms of injury were ballistic trauma (44.6%) and burns (25.5%). Acute rejection occurred in most patients and was successfully managed with corticosteroids and immunosuppressant adjustments. Chronic rejection was a major concern, occurring in six cases and requiring re-transplantation in two patients. Eight recipients died; causes of death were malignancy (four patients), infection (two), non-compliance with medical protocols (one), and suicide (one). Two of the recipients showed signs of chronic rejection at time of death. Time from transplant to death ranged from two months to 10 years.

Patients who survived beyond the early post-transplant period demonstrated functional transplants during follow-up for an average of three to six years. Recovery in sensory, motor, speech, and oral function improved over time, although complete recovery was rarely achieved. In 65.2% of recipients, quality of life improved after transplant, and 68% (32/47) needed additional surgical procedures to address related conditions. Transplant recipients generally accepted their new face rapidly with minimal distress. Authors observed an association between pre-existing mental disorders and adverse post-transplant outcomes that may have contributed to poor adherence to treatment protocols and one instance of suicide (Cavaliere, 2024).

Another systematic review summarized short-term (< 36 months) and long-term (> 36 months) outcomes of 48 face transplant recipients published from 2005 to 2021, and reached similar conclusions with respect to patient demographics and reported outcomes. The authors emphasized a lack of consensus in choice of outcome measures, making definition of short- and long-term risks unclear (Hadjiandreou, 2024).

A systematic review analyzed immunosuppressive strategies in face and hand transplantation, including 45 face transplant patients, 91 hand transplant patients, and three patients who received both face and hand transplants. Standard triple maintenance therapy (tacrolimus, mycophenolate mofetil, and steroids) often required adjustments due to nephrotoxicity or high incidence of rejection. Alternative treatments such as sirolimus or everolimus were used in hand transplantation, while photopheresis, sirolimus, or belatacept were used in face transplantation. Rejection episodes were reported in 73% of face transplant patients and 65.9% of hand transplant patients. Graft loss occurred in 8.9% of face transplants and 13.2% of hand transplants. Clinical cytomegalovirus infection was observed in 15.5% of face transplant recipients and 6.6% of hand transplant recipients. The study concluded that facial grafts exhibited a higher incidence of rejection episodes and clinical cytomegalovirus infections, possibly due to the inclusion of facial mucosa, highlighting the need for individualized immunosuppressive regimens and further research (Huelsboemer, 2024).

A systematic review and analysis of individual patient data at the Cleveland Clinic reported dental and skeletal outcomes among face transplant recipients. Twenty-five patients received allografts containing midface (n = 7), mandible (n = 2), or double-jaw (n = 16). Skeletal and dental complications were extremely common after facial allotransplantation involving either single- or double-jaw composites, and corrective orthognathic surgery and dental extraction were often required (Coombs, 2022).

In 2024, we updated the literature with no policy changes warranted.

In 2025, we updated the literature and reorganized the findings. No policy changes are warranted.

References

On September 19, 2025, we searched PubMed and the databases of the Cochrane Library, the U.K. National Health Services Centre for Reviews and Dissemination, the Agency for Healthcare Research and Quality, and the Centers for Medicare & Medicaid Services. Search terms were “facial transplantation” (MeSH), “composite tissue allografts” (MeSH), and “face transplant.” We included the best available evidence according to established evidence hierarchies (typically systematic reviews, meta-analyses, and full economic analyses, where available) and professional guidelines based on such evidence and clinical expertise.

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Policy updates

11/2019: initial review date and clinical policy effective date: 1/2020

11/2020: Policy references updated.

11/2021: Policy references updated.

11/2022: Policy references updated.

11/2023: Policy references updated.

11/2024: Policy references updated.

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