



# MASSACHUSETTS GENERAL HOSPITAL

## MGH Genito-Urinary Vascularized Composite Allograft (Penile) Transplant FAQs

### **When did the transplant occur?**

The first week in May of 2016.

### **How long did the procedure take?**

Approximately 15 hours.

### **How many surgeons on the team?**

There were 7 attending surgeons and 6 fellows/residents.

### **How many caregivers?**

More than 30, including anesthesiologists, nurses, physician assistants, scrub nurses, circulators and organ bank personnel.

### **How will the transplanted organ function?**

The organ will function to restore normal passage of urine as a conduit, as well as restore the anatomy of a natural penis.

### **Will sexual function be restored?**

We are cautiously optimistic that sexual function will be restored.

### **Will reproductive function be restored?**

Reproductive function is not a factor, as we did not transplant the testes responsible for reproduction. If a penile transplant recipient has his own native testes, and there is no disruption in the natural passageway for the sperm, then it is a possibility that reproductive function may be restored in the future.

### **How did the patient come to need a transplant?**

The patient had penile cancer, which necessitated removal (proximal partial) of his penis to cure the cancer. He has been cancer free for four years.

### **How old is the patient?**

64 years old.

### **What information can you provide about the donor?**

Due to confidentiality, the identity of the donor will not be released.

### **How will the patient and caregivers define success?**

We define success in 3 areas:

- 1) The composite allograft being viable, re-establishing the natural anatomy, and subsequently function as a conduit of urine flow;
- 2) The potential restoration of sexual function;
- 3) Restoration of natural appearance of the external genitalia.

**What type of follow-up care can the patient expect?**

Weekly follow-up appointments with Drs. Cetrulo and Ko in the Plastics/Urology Clinic together.

**What is the risk of rejection?**

Like many other transplants, the risk of rejection is six to 18 percent in the first year. Our past experience in hand transplantation has not yielded any rejections in more than three years.

**How long until the patient can be confident that the procedure was a success?**

There will be milestones for all of the benchmarks of success and we are hopeful that we can reach all of them.

**What sorts of medications/therapies will be involved to decrease the levels of rejection?**

Immunosuppression protocols have evolved from over 50 years of experience with solid organ transplantation. These previous hand and face transplantation experiences have provided a framework of treatments for this patient.

**Why did MGH decide to embark on this endeavor?**

Four years ago we embarked on a vascularized composite allotransplantation program for the hand at MGH. At the same time, we had a urologic surgeon from Walter Reed National Military Medical Center pursuing further training with us who has experience with devastating genitourinary injuries of wounded warriors. Additionally, our emeritus Chief of Urology is one of the leading experts in penile cancers – a patient population with a significant suicide rate. The combination of trauma and cancer survivors with devastating genital changes made us want to address whether we can transform the care of these patients through transplantation.

**How was this procedure developed?**

The procedure will differ across recipients the anatomy in each patient varies. Over the past few years, we have gained clinical experience in microvascular grafting, cadaveric labs for anatomic dissections, and genito-urinary donor procurements.

**How long did it take for review and approval?**

The Internal Review Board (IRB) at Partners HealthCare took approximately three years to approve this protocol in order to adequately address all aspects of care and protection of the patients that will undergo this new and innovative procedure.

**How was a donor selected and the family approached?**

This was a thorough approval process developed by the leadership at the New England Organ Bank. The way in which they approach the donor family which was vetted through their advisory and oversight committees, are based on sensitivities and respect to the donor and his family.

**Is this the first-of-its-kind transplant to be conducted in the U.S.?**

Yes.

**How long do you anticipate the patient being under observation before being released?**

Approximately 10 days.

**Can you briefly explain how the organ was attached and the procedure itself?**

All of the arteries, veins, nerves, urethra, and skin graft pedicle were connected to reflect an anatomically correct penis, further restoring the appearance and eventual function of the organ itself.

**What other outside organizations were involved?**

The New England Organ Bank has served as a valued supporter throughout the entire process.

**What is the ideal candidate profile for this type of transplant?**

We have inclusion criteria for such a determination. That is, each future candidate will be evaluated and investigated by a multidisciplinary team to ensure that the benefits outweigh the risks of such an undertaking.