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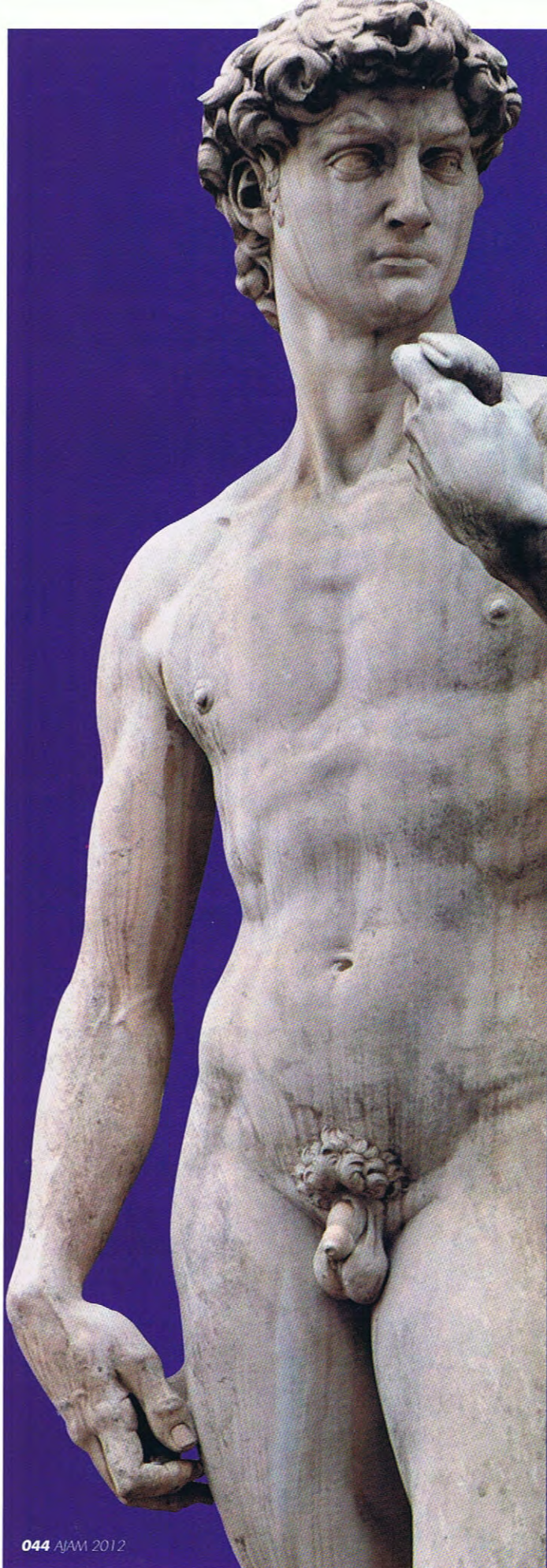
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## Abstract Introduction

In the 21<sup>st</sup> century, a man understands that he is capable of changing his manhood. Male enhancement surgery (phalloplasty) is available in the cosmetic surgery field and this article describes new surgical techniques using a patient's own skin graft.

## Materials And Methods

A total of 127 enhancement surgeries performed using dermal grafts have been reviewed for this article. A free skin graft is a section of human skin, taken surgically from the patient's own body, and attached or transplanted to another area of the body. The resulting graft serves not only as a framework to support cellular repopulation and vascularization of the patient's own tissue, but also performs penile augmentation itself.

## Results

67.7% percent of the patients who underwent the phalloplasty procedures with dermal graft and participated in the postoperative survey reported great satisfaction with their male cosmetic augmentation surgery.

## Discussion

Technology has rendered nearly all previous definitions of masculinity obsolete. A man is no longer measured by his physical strength, because machines do much of the work for him. As a result, muscles have become more symbolic than useful. In our time, the erect penis has become the most powerful symbol of a man's so called "muscles". However, while modern cultural taboos remain, penile cosmetic surgery attracts more and more men.<sup>1</sup> An ability to modify the size and the shape of the penis using cosmetic/plastic surgery techniques has become very popular.<sup>2,3</sup> With the use of



dermal grafts, AlloDerm® and BellaDerm®, these changes can last for years, and could be considered almost permanent. Dermal grafts – AlloDerm®, BellaDerm® or any other materials used for penile augmentation surgery – in the future can be replaced by artificial tissue, by engineered material, or by human penis cells cultured and grown for use as a natural matrix.

In 2000, Buvat and Lemaire wrote the following: "Penile lengthening and augmentation surgery is attracting more and more men. Nevertheless both its objective results and ethical implications are debated. Indications and operative strategies as well as the assessment of the results seemed standardized, while many candidates for this type of surgery have in fact a penis in the normal range of size".<sup>4</sup>

### Conclusion

This article represents retrospective evaluation of patients who have undergone surgical penile enlargement with dermal graft. The study reported a high satisfaction rate with a new surgical technique for penile augmentation (Penile Triple Augmentation) developed, patented<sup>5</sup> and used by the author of this article.

HISTORICALLY, THE PHALLUS as a symbol of creative energy has been central to virtually every world culture. Men have always considered a larger penis to be a symbol of greater masculinity. "From the oldest human records to modern times, man's self-esteem and self-image have always been related to the size of the penis," wrote Dr. Bayard Fisher Santos in his book, *The Measure of Man*.<sup>6</sup> Men usually don't speak about liposuction, or face lifts, and definitely never speak about enhancement of their penis. If they discuss it at all, they do it in private conversations and not in public places.

Women are different and they feel comfortable to discuss breast surgery, face lift and liposuction. Establishment and maintenance of the masculine identity is more delicate and frail than the establishment and maintenance of the female identity. In our society, there is definitely a great disproportion between acceptance of female body rejuvenation surgery and acceptance of male rejuvenation surgery because our society is not yet as acculturated to the idea of male rejuvenation surgery as it is to the idea of female rejuvenation surgery.

# Male Enhancement Surgery

Dr Alexander Krakovsky

## with New Surgical Techniques

Part I





## A DFG is created by peeling away the epidermis, or top layer of skin, along with all hair follicles, from a graft of skin with its attached fat.

Many men undergo surgical penile augmentation (phalloplasty) despite the lack of acceptance of this surgery by our society<sup>1</sup>, altering the size and the shape of his penis using procedures introduced by cosmetic/plastic surgery.<sup>2,3</sup> Some of these procedures are permanent, and some are non-permanent, or temporary. It must be emphasized again that permanent penile augmentation surgery is the surgery that never requires maintenance of the achieved size and shape of the penis after surgery through additional grafting. The dermal graft, or DFG (a graft made from the patient's own skin)<sup>7</sup> and AlloDerm® (a graft created from cadaver skin)<sup>8,9</sup> are the only two types of graft that offer almost permanent enlargement of the penis. Recently, the graft from life donor became available (BellaDerm®) that also offers the AlloDerm type of penile enlargement. After implementing the new techniques described in this article, complications from penile augmentation surgery using permanent grafts have been, for all practical purposes, eliminated in the majority of patients.<sup>1,3,9</sup>

Non-permanent (temporary) penile augmentation surgery is an augmentation procedure that uses fat graft (Free Fat Transfer, or FFT). Today, fat injection has been modified and now it is representing as a "LP graft" augmentation technique. In fact, this is just another marketing tool promoting the same penile fat injection. This type of penile augmentation (FFT) has many complications including, but not limited to, deformation of the penis, lumps, bumps and clumps on the penile shaft which are permanent, compared to the temporary benefit of penile augmentation using free fat injection. Besides, this augmentation requires

periodic additional fat injections in order to maintain the penile girth gained from the first procedure. It is important to highlight that no medical insurance company in the United States or in any other part of the world offer malpractice insurance coverage for doctors using fat injections for penile augmentation. In addition, patients who seek penile reconstruction surgery after having experienced fat injections now comprise the largest segment of cosmetic penile reconstruction surgery patients in the United States. Cosmetic penile reconstruction surgery in fact is very difficult surgically and is also very expensive. Despite all that has been said, doctors still mislead many patients by offering "cheap" penile augmentation "surgery" using fat injection (FFT or LP graft).

The present study analyzes in retrospect several permanent phalloplasty surgical procedures currently in use. These procedures can be divided into two categories: single augmentation and combination augmentation.

Single penile augmentation refers to one of three procedures: penile lengthening, penile widening, and penile glanular enhancement surgeries. In this study, single augmentation surgery includes girth enhancement (widening) only.

Combination penile augmentation includes Penile Dual Augmentation™ (lengthening and girth enhancement surgeries combined) and Penile Triple Augmentation™ (lengthening, girth enhancement and glanular enhancement surgeries combined).

These new phalloplasty techniques provide a cosmetic solution for patients

who are dissatisfied with the natural size of their penises and related physical characteristics, even though, as previously mentioned, many of these patients have a penis within the normal range of size.

### Dermal Graft

Historically, penile augmentation surgery was accomplished using free dermal grafts<sup>10</sup> of the patient's own skin (dermal fat grafts, or DFGs). These grafts were placed on the penis to increase penis girth. AlloDerm graft was subsequently introduced.<sup>8</sup> Today, there are various options available for cosmetic penile augmentation surgery, each one with its advantages and disadvantages. Two of the safest and most permanent options are DFG and AlloDerm. Of these two options, some surgeons use DFG exclusively, while others use AlloDerm exclusively. The author offers his patients the option of using DFG or AlloDerm graft for penile augmentation. Recently, new free dermal matrix graft became available – the BellaDerm graft. This graft was made in accordance with approved technology from a live human body (e.g. from tummy tuck surgery) and donated for human use. In fact, this graft is the first human dermal tissue graft created specifically for facial and body contouring reconstruction cosmetic surgical procedures. The graft is soft, flexible, with consistent thickness, and hydrated with no refrigeration requirement.

A skin graft is a section of human skin, taken surgically from one area of the body (patient's own body), and attached or transplanted to another area of the body. Skin grafts have been used for many years in all types of surgery. According to Hauben, Baruchin, and Mahler, "Skin grafting apparently originated with the Hindus 3,000 years ago, but until the beginning of the nineteenth century only a few trials were reported."<sup>10</sup> Other skin grafting pioneers contributed



## A semicircle incision became the most up to date surgical technique for lengthening augmentation surgery.

why a patient might prefer DFG to AlloDerm. One advantage of DFG over AlloDerm is that grafts from the patient's own body are much less expensive than AlloDerm. A second advantage of DFG is that a DFG is thicker than an AlloDerm graft, so augmentation with the DFG is bigger. A third advantage of DFG is that, in the rare event that infection should occur, treatment of an infection is faster, and the infection can generally be treated with an antibiotic, rather than with surgically inserted drain.

Complications involving infection can occur after any surgical procedure, including penile cosmetic surgery. In the author's experience, post-surgical complications involving infections are rare; however, they do occur in about 3% to 4% of penile augmentation patients. Usually, infection occurs because patients fail to follow the post-surgical instructions provided to them. A fourth advantage of DFG is the psychological assurance that the graft comes from the patient's own body. Some patients simply do not like the idea of grafting something foreign onto their body, no matter how safe the graft is. Others feel reassured by the fact that their own skin is compatible with their own body, providing a very low chance of rejection of the graft. AlloDerm has proven to be a very safe product with over a million grafts performed in the US for different medical and cosmetic purposes.

**Why AlloDerm?** There are several reasons why a patient might prefer AlloDerm to DFGs. One advantage of AlloDerm over DFGs is that the patient does not need to provide grafts from his own body, thereby avoiding the potential complications and

discomfort of additional incisions and the accompanying healing process. A second advantage is the avoidance of unsightly residual scars. A third advantage is that, because the need to take grafts from the patient's body is eliminated, the time required for the surgery itself is reduced. Patient's Choice. Both DFG and AlloDerm have advantages and disadvantages when used for any surgeries including penile augmentation. The author believes that the choice between DFG and AlloDerm belongs to the patient.

### Surgical Procedures Used in the Study

A total of 127 phalloplasty surgeries using dermal graft (DFG) were reviewed for this article. These surgeries were performed over a five-year period in multiple surgery centers. Phalloplasty procedures utilized, and the number and percentage of patients undergoing them, included: single (girth enhancement) augmentation (12 patients, or 10%); dual augmentation (38 patients, or 30%); triple augmentation (76 patients, or 60%). All patients were evaluated before surgery. Laboratory evaluation and anesthesiology clearance were obtained for all patients. Medical clearance was obtained in cases where the patient's age and general medical condition indicated a need to do so. Patients were photographed and marked in standard position before and after surgery. All procedures were discussed in detail with each patient. All patient questions were answered, and each patient signed a detailed consent form before his surgery. Patient's education prior to the phalloplasty procedures included a medical consultation; an introduction to a surgery preparation and follow

up checklist and a set of phalloplasty timelines and guidelines; pre- and post-operative instructions; suggestions for maximizing the success of the surgery; lists of foods and medications to avoid; a list of tests required for the surgical procedure; physiotherapy stretching exercise information for use after surgery; a written detailed explanation of the upcoming surgery and surgical complications and the answers to frequently asked questions. Every patient was able to access these documents online on the website located in the special folder at any time before and after surgery using a secure ID and password.

General anesthesia was provided in accordance to the American Society of Anesthesiologists (ASA) guidelines with subsequent additional local anesthesia. Standard postoperative monitoring was provided after surgery in the recovery room, and all patients were discharged in a stable medical condition. All patients were instructed to contact the surgeon and/or the surgical center with any questions during the first 24 to 48 hours after surgery, and returned for re-evaluation and dressing change the day after surgery and subsequently for 2 more days. All patients were then discharged home in a safe and stable condition. The surgeon and the surgery center were available 24 hours 2 days after surgery for all patients. Follow up to monitor the recovery of all patients continued on a weekly basis, during the first two months after surgery through phone calls, e-mail, and photos. In some cases, patients were referred to local physicians for re-evaluation, with follow-up phone consultation between the surgeon and the local doctor. After surgery, all patients received prescriptions for antibiotics for 3 weeks, pain control medication for 5 days, and erection control medication for 6 to 8 weeks. All patients were instructed to resume sexual activities after 6 to 8 weeks, if cleared by the surgeon.




Since the first lengthening surgery has been performed, the incision shape and the technique dramatically changed. Initially, incision for lengthening augmentation surgery was performed as a VY plasty. VY plasty was successfully used in many different plastic surgical procedures where elongation of neither of the underlined tissues was required. This type of plasty, which used a V shape skin incision and closed with a Y shape closure, elongated only the superficial skin layer and did not affect (elongate) the underlying tissues. Penile lengthening surgery, in contrast, is not just superficial skin lengthening procedure – it is a procedure that is performed to increase the length of a full penis, not just the superficial penile skin. Besides, a VY type of incision ends up with not only a very bad looking scar that is not acceptable in a cosmetic surgery field, but also with a severe penile retraction. In other words, VY plasty performed for penile lengthening not only does not increase penile length, but conversely makes a penis shorter. Therefore, VY plasty has been replaced by M-plasty, Z-plasty and horizontal incision and lately, with semicircle incision. In fact, a semicircle incision became the most up to date surgical technique for lengthening augmentation surgery because it has all the advantage of a horizontal incision and follows the superficial contour of the penile area.

### Description of Modern Lengthening Surgery Techniques Used in the Study

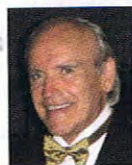
A curvilinear (semicircular) incision approximately 5 centimeters in length

was made in the infrapubic region at the base of the penis. A complete lengthening surgery includes an incision of the fundiform ligament, the suspensory ligament, and several lateral extensions of the suspensory ligament that are found deep in the floor of the wound. In some patients, the depth of the incision can be 12 to 15 centimeters from the skin. In these cases, extreme care must be taken to avoid damage to major blood vessels and nerves.

Normally, with complete separation of the penis from the pubic bone, an additional 0.5 to 1.5 inches of the penis in the flaccid state becomes available externally. In some cases the length of the penis can be increased up to 2.0 inches. The surgeon can separate only the portion of the penis that is attached to the pubic bone. The length of this portion of the penis varies from person to person. The surgeon should never promise the patient a set amount of post-surgical gain in penis length.

The final result of the lengthening procedure depends equally on a complete separation of the penis from the pubic bone and on an adequate post surgical stretching exercise therapy (physiotherapy) performed by the patient. In addition, rejuvenation of penile pubic junctions and scrotal pubic junctions should be discussed with the patient and taken into consideration, emphasizing the angle of the penis to the pubic area. Rejuvenation can be achieved by changing the sagging angle that appears when men age. 

In the next issue: **Male enhancement surgery with new surgical technique: Part 2.**



Dr Alexander Krakovsky is a cosmetic, plastic and aesthetic surgeon, and is the only plastic/cosmetic surgeon in the United States today performing penile augmentation with both AlloDerm and DFGs.

Dr Krakovsky is the General Secretary of the American Academy of Aesthetic Medicine. He is also currently the Editor-in-Chief of the American Journal of Aesthetic Medicine.

#### References

- 1 Krakovsky AA. State of the Art in Phalloplasty. *The American Journal of Cosmetic Surgery* 2005;22(3): 175.
- 2 Krakovsky AA. Current Approach to Male Enhancement Surgery: Updated Phalloplasty Technique. *Asia Pacific Aesthetic Medicine Journal [APAM]* 2007;1:38-40.
- 3 Krakovsky AA. Bigger in all sense: Penile Dual Augmentation Surgery. *Asia Pacific Aesthetic Medicine Journal [APAM]* 2008;2:21-24.
- 4 Buvat J, Lemaire A. Survey on Penile Lengthening and Augmentation Surgery. *International Society for Impotence Research Newsbulletin* 2000 September;4:12.
- 5 Krakovsky AA. Phalloplasty Technique. The United States of America. The Commissioner of Patents and Trademarks. 2009. Patent # 7,584,757.
- 6 Santos BF. *The Measure of Man*. Porto Alegre, Brazil: Imprensa Livre Editora; 2004.
- 7 Alter GJ. Penile enlargement surgery. *Tech Urol* 1998;4(2):70-76.
- 8 Biohorizons Implant Systems, Inc. AlloDerm Regenerative Tissue Matrix: soft tissue replacement without a palatal harvest [Brochure]. Retrieved March 15, 2008 from [www.biohorizons.com/documents/alloderm\\_brochure.pdf](http://www.biohorizons.com/documents/alloderm_brochure.pdf); Birmingham: February 2006, 2.
- 9 Krakovsky AA. Up-to-Date Surgical Technique for Penile Augmentation with AlloDerm. *The American Journal of Cosmetic Surgery* 2008;25(3):135-144.
- 10 Hautben DJ, Baruchin A, and A Mahler. On the history of the free skin graft. *Ann Plast Surg* 1982 Sep;9(3):242-5.
- 11 A.D.A.M. Medical Illustration Team. Skin graft. *Medline Plus Medical Encyclopedia*, a service of the U.S. National Library of Medicine and the National Institutes of Health. [www.nlm.nih.gov/medlineplus/ency/imagepages/19083.htm](http://www.nlm.nih.gov/medlineplus/ency/imagepages/19083.htm), Sep 14, 2006 (accessed April 8, 2008).
- 12 Christenson L. Skin Grafting. *Gale Encyclopedia of Medicine*. Detroit: The Gale Group Inc.; Healthline at [www.healthline.com/galecontent/skingrafting/](http://www.healthline.com/galecontent/skingrafting/); 2002 (accessed April 8, 2008).
- 13 *Encyclopedia Britannica Online*. Skin Graft. [www.britannica.com/eb/article-9068111/skingraft](http://www.britannica.com/eb/article-9068111/skingraft); 2008 (accessed April 8, 2008).
- 14 Grande, D. and D.M. Mezebish. Skin Grafting: Indications. *emedicine from WebMD*. [www.emedicine.com/derm/topic867.htm#section-References](http://www.emedicine.com/derm/topic867.htm#section-References); Sep 19, 2006, Section 3 of 10 (accessed April 8, 2008).
- 15 Reed H. Augmentation Phalloplasty with Girth Enhancement Employing Autologous Fat Transplantation: A Preliminary Report. *The American Journal of Cosmetic Surgery* 1994;11(2):85-90.
- 16 Alter GJ. Augmentation phalloplasty. *Urol. Clin. North Amer.* 1995, 22 (4): 887-902.
- 17 Alter GJ. Reconstruction of deformities resulting from penile enlargement surgery. *J. Urology*, 1999, 161 (2): 611-612.
- 18 Krakovsky AA. Pubic Liposuction as a Supplement Procedure for Male Enhancement Surgery. *World Congress of Liposuction Surgery*, St. Louis: October 1-3, 2004, 16-17.
- 19 Whitehead ED. AAPS Enhancement Phalloplasty, position statement presented and approved at the annual meeting of the American Academy of Phalloplasty Surgeons February 2, 2002; presented at the meeting of the American Urological Association, Genitourinary Reconstructive Surgery Section, Chicago: April 28, 2003.

#### Trademark References:

1. Penile Dual Augmentation™ is a trademark of Alexander A. Krakovsky.
2. Penile Triple Augmentation™ is a trademark of Alexander A. Krakovsky.



## Abstract

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A total of 127 phalloplasty surgeries using dermal graft (DFG) were reviewed for this article. These surgeries were performed over a five-year period in multiple surgery centers. Phalloplasty procedures utilized, and the number and percentage of patients undergoing them, included: single (girth enhancement) augmentation (12 patients, or 10%); dual augmentation (38 patients, or 30%); triple augmentation (76 patients, or 60%). All patients were evaluated before surgery. Laboratory evaluation and anesthesiology clearance were obtained for all patients. Medical clearance was obtained in cases where the patient's age and general medical condition indicated a need to do so. Patients were photographed and marked in standard position before and after surgery. All procedures were discussed in detail with each patient. All patient questions were answered, and each patient signed a detailed consent form before his surgery. Patient's education prior to the phalloplasty procedures included a medical consultation; an introduction to a surgery preparation and follow up checklist and a set of phalloplasty timelines and guidelines; pre- and post-operative instructions; suggestions for maximizing the success of the surgery; lists of foods and medications to avoid; a list of tests required for the surgical procedure; physiotherapy stretching exercise information for use after surgery; a written detailed explanation of the upcoming surgery and surgical complications and the answers to frequently asked questions. Every patient was able to access these documents online on the website located in the special folder at any time before and after surgery using a secure ID and password.

General anesthesia was provided in accordance to the American Society of Anesthesiologists (ASA) guidelines with subsequent additional local anesthesia. Standard postoperative monitoring was provided after surgery in the recovery room, and all patients were discharged in a stable medical condition. All patients were instructed to contact the surgeon and/or the surgical center with any questions during the first 24 to 48 hours after surgery, and returned for re-evaluation and dressing change the day after surgery and subsequently for 2 more days. All patients were then discharged home in a safe and stable condition. The surgeon and the surgery center were available 24 hours 2 days after surgery for all patients. Follow up to monitor the recovery of all patients continued on a weekly basis, during the first two months after surgery through phone calls, email, and photos. In some cases, patients were referred to local physicians for re-evaluation, with follow-up phone consultation between the surgeon and the local doctor. After surgery, all patients received prescriptions for antibiotics for 3 weeks, pain control medication for 5 days, and erection control medication for 6 to 8 weeks. All patients were instructed to resume sexual activities after 6 to 8 weeks, if cleared by the surgeon.



Since the first lengthening surgery has been performed, the incision shape and the technique dramatically changed. Initially, incision for lengthening augmentation surgery was performed as a VY plasty. VY plasty was successfully used in many different plastic surgical procedures where elongation of neither of the underlined tissues was required. This type of plasty which used a V shape skin incision and closed with a Y shape closure, elongated only the superficial skin layer and did not affect (elongate) the underlying tissues. Penile lengthening surgery, in contrast, is not just superficial skin lengthening procedure – it is a procedure that is performed to increase the length of a full penis, not just the superficial penile skin. Besides, a VY type of incision ends up with not only a very bad looking scar that is not acceptable in a cosmetic surgery field, but also with a severe penile retraction. In other words, VY plasty performed for penile lengthening not only does not increase penile length, but conversely makes a penis shorter. Therefore, VY plasty has been replaced by M-plasty, Z-plasty and horizontal incision and lately, with semicircle incision. In fact, a semicircle incision became the most up to date surgical technique for lengthening augmentation surgery because it has all the advantage of a horizontal incision and follows the superficial contour of the penile area.

#### Description of Modern Lengthening Surgery Techniques Used in the Study

A curvilinear (semicircular) incision approximately 5 centimeters in length was made in the infrapubic region at the base of the penis. A complete lengthening surgery includes an incision of the fundiform ligament, the suspensory ligament, and several lateral extensions of the suspensory ligament that are found deep in the floor of the wound. In some patients, the depth of the incision can be 12 to 15 centimeters from the skin. In these cases, extreme care must be taken to avoid damage to major blood vessels and nerves.

Normally, with complete separation of the penis from the pubic bone, an additional 0.5 to 1.5 inches of the penis in the flaccid state becomes available externally. In some cases the length of the penis can be increased up to 2.0 inches. The surgeon can separate only the portion of the penis that is attached to the pubic bone. The length of this portion of the penis varies from person to person. The surgeon should never promise the patient a set amount of postsurgical gain in penis length.

The final result of the lengthening procedure depends equally on a complete separation of the penis from the pubic bone and on an adequate post surgical stretching exercise therapy (physiotherapy) performed by the patient. In addition, rejuvenation of penile pubic junctions and scrotal pubic junctions should be discussed with the patient and taken into consideration, emphasizing the angle of the penis to the pubic area. Rejuvenation can be achieved by changing the sagging angle that appears when men age.

Dr Alexander Krakovsky is a cosmetic, plastic and aesthetic surgeon, and is the only plastic/cosmetic surgeon in the United States today performing penile augmentation with both AlloDerm and DFGs.

Dr Krakovsky is the General Secretary of the American Academy of Aesthetic Medicine. He is also currently the Editor-in-Chief of the American Journal of Aesthetic Medicine.

#### References



- 1 Krakovsky AA. State of the Art in Phalloplasty. *The American Journal of Cosmetic Surgery* 2005;22(3):175.
- 2 Krakovsky AA. Current Approach to Male Enhancement Surgery: Updated Phalloplasty Technique, *Asia Pacific Aesthetic Medicine Journal (APAM)* 2007;1:38-40.
- 3 Krakovsky AA. Bigger in all sense. Penile Dual Augmentation Surgery. *Asia Pacific Aesthetic Medicine Journal (APAM)* 2008;2:21-24.
- 4 Buvat J, Lemaire A. Survey on Penile Lengthening and Augmentation Surgery. *International Society for Impotence Research Newsbulletin* 2000 September;4:12.
- 5 Krakovsky AA. Phalloplasty Technique. The United States of America. The Commissioner of Patents and Trademarks, 2009. Patent # 7,584,757.
- 6 Santos BF. *The Measure of Man*. Porto Allegre, Brazil: Imprensa Livre Editora, 2004.
- 7 Alter GJ. Penile enlargement surgery, *Tech Urol* 1998;4(2):70-76.
- 8 Biohorizons Implant Systems, Inc. AlloDerm Regenerative Tissue Matrix: soft tissue replacement without a palatal harvest [Brochure]. Retrieved March 15, 2008 from [www.biohorizons.com/documents/alloderm\\_brochure.pdf](http://www.biohorizons.com/documents/alloderm_brochure.pdf), Birmingham: February 2006, 2.
- 9 Krakovsky AA. Up-to-Date Surgical Technique for Penile Augmentation with AlloDerm. *The American Journal of Cosmetic Surgery* 2008;25(3):135-144.
- 10 Hauben DJ, Baruchin A, and A Mahler. On the history of the free skin graft. *Ann Plast Surg* 1982 Sep;9(3):242-5.
- 11 A.D.A.M Medical Illustration Team. Skin graft. *Medline Plus Medical Encyclopedia*, a service of the U.S. National Library of Medicine and the National Institutes of Health, [www.nlm.nih.gov/medlineplus/ency/imagepages/19083.htm](http://www.nlm.nih.gov/medlineplus/ency/imagepages/19083.htm), Sep 14, 2006 (accessed April 8, 2008).
- 12 Christenson L. Skin Grafting. *Gale Encyclopedia of Medicine*. Detroit: The Gale Group Inc., Healthline at [www.healthline.com/galecontent/skin-grafting/](http://www.healthline.com/galecontent/skin-grafting/), 2002 (accessed April 8, 2008).
- 13 *Encyclopedia Britannica Online*. Skin Graft. [www.britannica.com/eb/article-9068111/skin-graft](http://www.britannica.com/eb/article-9068111/skin-graft), 2008 (accessed April 8, 2008).
- 14 Grande, D. and D.M. Mezebish. Skin Grafting: Indications. *emedicine from WebMD*, [www.emedicine.com/derm/topic867.htm#section~References](http://www.emedicine.com/derm/topic867.htm#section~References), Sep 19, 2006, Section 3 of 10 (accessed April 8, 2008).
- 15 Reed H. Augmentation Phalloplasty with Girth Enhancement Employing Autologous Fat Transplantation: A Preliminary Report. *The American Journal of Cosmetic Surgery* 1994;11(2):85-90.
- 16 Alter GJ. Augmentation phalloplasty, *Urol. Clin. North Amer.*, 1995, 22(4):887-902.
- 17 Alter GJ. Reconstruction of deformities resulting from penile enlargement surgery, *J. Urology*, 1999, 161(2):611-612.
- 18 Krakovsky AA. Pubic Liposuction as a Supplement Procedure from Male Enhancement Surgery, *World Congress of Liposuction Surgery*, St. Louis: October 1-3, 2004, 16-17.



19 Whitehead ED. AAPS Enhancement Phalloplasty, position statement presented and approved at the annual meeting of the American Academy of Phalloplasty Surgeons February 2, 2002; presented at the meeting of the American Urological Association, Genitourinary Reconstructive Surgery Section, Chicago: April 28, 2003.

Trademark References:

1. Penile Dual Augmentation™ is a trademark of Alexander A. Krakovsky.
2. Penile Triple Augmentation™ is a trademark of Alexander A. Krakovsky.