Peyronie’s Disease Surgical Therapy

Anthony J. Bella MD, FRCSC
Greta and John Hansen Chair in Men’s Health Research
Division of Urology, Department of Surgery
University of Ottawa
Peyronie’s Disease Surgical Therapy

Plication is the Best Option

Anthony J. Bella MD, FRCSC
Greta and John Hansen Chair in Men’s Health Research
Division of Urology, Department of Surgery
University of Ottawa
Research Funding

Prostate Cancer Research Foundation of Canada
Canadian Male Sexual Health Council
Canadian Foundation for Innovation Infrastructure Grant
American Medical Systems PROPPER Study (ClinicalTrials.gov Identifier: NCT01383018)

Greta and John Hansen Chair in Men’s Health Research
DISCLOSURES

Speakers Bureau/Honoraria/Consulting Fees:

Eli Lilly Inc, Pfizer, Abbott, American Medical Systems,
A CURVE IS A CURVE IS A CURVE?
The surgical management of Peyronie’s disease is not a ‘one-size-fits-all’ endeavor. Although patient factors are the primary determinant of technique, surgeon preferences or limitations may often dictate the optimal approaches.
The surgical management of Peyronie’s disease is not a ‘one-size-fits-all’ endeavor. Although patient factors are the primary determinant of technique, surgeon preferences or limitations may often dictate the optimal approaches.

Minimizing disruption of normal anatomy while maximizing patient outcomes, the minimally-invasive approach, may also be applied to corrective surgery in these cases.
To identify the characteristics of Peyronie’s disease suitable for surgical management with plication
CME OBJECTIVES

To identify the characteristics of Peyronie’s disease suitable for surgical management with plication

To review the advantages and disadvantages of plication approaches
CME OBJECTIVES

To identify the characteristics of Peyronie’s disease suitable for surgical management with plication

To review the advantages and disadvantages of plication approaches

To determine whether plication is the best option
CME OBJECTIVES

To identify the characteristics of Peyronie’s disease suitable for surgical management with plication

To review the advantages and disadvantages of plication approaches

To determine whether plication is the best option-2015 AUA Guidelines for Peyronie’s disease

Best available evidence

Common sense
PEYRONIE’S DISEASE: AUA GUIDELINE

Methods: A systematic review of the literature using the Pubmed, Embase, and Cochrane databases (search dates 1/1/1965 to 1/26/15) was conducted to identify peer-reviewed publications relevant to the diagnosis and treatment of PD. The review yielded an evidence base of 303 articles after application of inclusion/exclusion criteria. These publications were used to create the guideline statements. If sufficient evidence existed, then the body of evidence for a particular treatment was assigned a strength rating of A (high quality evidence; high certainty), B (moderate quality evidence; moderate certainty), or C (low quality evidence; low certainty); evidence-based statements of Strong, Moderate, or Conditional Recommendation, which can be supported by any body of evidence strength, were developed based on benefits and risks/burdens to patients. Additional information is provided as Clinical Principles and Expert Opinion when insufficient evidence existed.
Methods: A systematic review of the literature using the Pubmed, Embase, and Cochrane databases (search dates 1/1/1965 to 1/26/15) was conducted to identify peer-reviewed publications relevant to the diagnosis and treatment of PD. The review yielded an evidence base of 303 articles after application of inclusion/exclusion criteria. These publications were used to create the guideline statements. If sufficient evidence existed, then the body of evidence for a particular treatment was assigned a strength rating of A (high quality evidence; high certainty), B (moderate quality evidence; moderate certainty), or C (low quality evidence; low certainty); evidence-based statements of Strong, Moderate, or Conditional Recommendation, which can be supported by any body of evidence strength, were developed based on benefits and risks/burdens to patients. Additional information is provided as Clinical Principles and Expert Opinion when insufficient evidence existed.
6. Clinicians should not offer oral therapy with vitamin E, tamoxifen, procarbazine, omega-3 fatty acids, or a combination of vitamin E with L-carnitine. \[\text{Moderate Recommendation; Evidence Strength Grade B(vitamin E/omega-3 fatty acids/Vitamin E + propionyl-L-carnitine )/ C(tamoxifen/procarbazine)}\]

There is no role for Vitamin E. Period.
6. Clinicians should not offer oral therapy with vitamin E, tamoxifen, procarbazine, omega-3 fatty acids, or a combination of vitamin E with L-carnitine. [Moderate Recommendation; Evidence Strength Grade B(vitamin E/omega-3 fatty acids/Vitamin E + propionyl-L-carnitine)/ C(tamoxifen/procarbazine)]

There is no role for Vitamin E. Period.
A CURVE IS A CURVE IS A CURVE?
THE PEYRONIE’S PATIENT AND SURGERY
Evidence based medicine: ranked 8th out of all medical advances over past 140 years

EBM is about making decisions based on the best available clinical evidence, not dictating what clinicians do

Sound, objective science-based evaluation, with highest value placed on most provable information

Concept moved beyond “why is EBM” important to “How quickly can we forward the field (PD) to make it a reality”
Recommendation 8
Surgical correction of PD should not be performed until at least 12 months after onset, symptoms stable for 3 (preferably 6 months). Deformity should make intercourse difficult. Erection should be ‘adequate’ for correction (non-penile implant). Patient informed of expectations and outcomes.
Summary of the Recommendations on Sexual Dysfunctions in Men

Francesco Montorsi, MD,* Ganesan Adaikan, MD,† Edgardo Becher, MD,‡ Francois Giuliano, MD, PhD,§ Saad Khoury, MD,‖ Tom F. Lue, MD,*** Ira Sharlip, MD,*** Stanley E. Althof, PhD,†† Karl-Eric Andersson, PhD,‡‡ Gerald Brock, MD,§§ Gregory Broderick, MD,††† Arthur Burnett, MD,*** Jacques Buvat, MD,‡‡‡ John Dean, MD,††† Craig Donatucci, MD,§§§ Ian Eardley, MD,tí Kerstin S. Fugl-Meyer, PhD,**** Irwin Goldstein, MD,†††† Geoff Hackett, MD,***** Dimitris Hatzichristou, MD,§§§§ Wayne Hellstrom, MD,†††† Luca Incrocci, MD,***** Graham Jackson, MD,†††† Ates Kadioglu, MD,$$$$ Laurence Levine, MD,§§§§ Ronald W. Lewis, MD,$$$$ Mario Maggi, MD,****** Marita McCabe, PhD,††††† Chris G. McMahon, MD,††††† Drogo Montague, MD,§§§§§ Piero Montorsi, MD,‡‡‡‡‡ John Mulhall, MD,******* Jim Pfaus, PhD,†††††† Hartmut Porst, MD,†††††† David Ralph, MD,§§§§§§ Raymond Rosen, PhD,‡‡‡‡‡‡ David Rowland, MD,******** Hossein Sadeghi-Nejad, MD,††††††† Ridwan Shabsigh, MD,‡‡‡‡‡‡‡ Christian Stief, MD,§§§§§§§ Yoram Vardi, MD,‡‡‡‡‡‡‡ Kim Wallen, PhD,******** and Marlene Wasserman, MD†††††††

Surgical Treatment

Surgery remains the gold standard for correcting erect penile deformity in the man with stable disease. Surgical reconstruction is indicated for the man who has had stable disease for more than 6 months, painless deformity, compromised ability or inability to engage in coitus secondary to deformity, and/or inadequate rigidity when there is extensive plaque calcification as well as for the man who desires the most rapid and reliable result.
Preoperative consent is critical to setting proper outcome expectations for the patient. It is imperative to have a discussion about the risks of persistent or recurrent curvature, loss of erect length, diminished rigidity, and decreased sexual sensation. Several surgical algorithms have been published, with general agreement that for men with adequate preoperative rigidity, some form of tunica plication procedure is best for those with curvature of less than 60° and with no hourglass deformity resulting in a hinge effect. For those with more severe deformity (more than 60° and/or hourglass) and good preoperative rigidity, incision or partial excision and grafting is recommended.
• Model 1: The Ideal World
  – Graft lengthens the penis, plication shortens it
  – Neither affects erectile rigidity
  – Both take care of all deformities
Apples and Apples or Apples and Oranges?

- Model 1: The Ideal World
  - Graft lengthens the penis, plication shortens it
  - Neither affects erectile rigidity
  - Both take care of all deformities

- Model 2: Real World
  - What are the changes in length?
  - How do the approaches affect erectile rigidity?
  - Is satisfaction equal?
To review the advantages and disadvantages of plication approaches
LESSONS LEARNED FROM THE SURGICAL MANAGEMENT OF PEYRONIE'S DISEASE: P LICATION PROCEDURES
WHEN IS PENILE PLICATION AN OPTION FOR PEYRONIE'S DISEASE?

- Patient selection for any surgical approach for Peyronie's disease is paramount
WHEN IS PENILE Plication AN OPTION FOR PEYRONIE'S DISEASE?

• Patient selection for any surgical approach for Peyronie's disease is paramount – as is choice of approach
Patient selection for any surgical approach for Peyronie's disease is paramount – as is choice of approach.

- Stable curvature, limits sexual function (<60 degrees and uniplanar are not absolute requirements)
WHEN IS PENILE Plication AN OPTION FOR PEYRONIE'S DISEASE?

- Patient selection for any surgical approach for Peyronie's disease is paramount – as is choice of approach
  - Stable curvature, limits sexual function
  - Maintained erectile function
  - Sufficient penile length

TYPES OF PENILE PLICATION SURGERY

Tunical Manipulation

• Classic Nesbit's/wedge repair

• Plication with partial thickness shaving of the tunica
TYPES OF PENILE Plication SURGERY

Tunical Manipulation

- Classic Nesbit's/wedge repair
- Plication with partial thickness shaving of the tunica

Non- or Minimally Disruptive to the Tunica

- Plication without tunical incision
- Minimal-tension (Lue 16-dot) technique
LUE 16-DOT TECHNIQUE

LUE 16-DOT TECHNIQUE

Adjustment of tension of right upper suture to allow visualization over correction of curvature

Rubber band holding down the first throw of the left upper suture at the level of the tunica

Non-absorbable sutures are placed, starting outside-in and then inside-out of the tunica and secured with rubber bands

LUE 16-DOT TECHNIQUE

Before surgery

After surgery

Right and left upper sutures are tied at minimal tension to achieve penile straightening.

Rubber bands holding down the first throw of the right and left lower sutures at the level of the tunica.
LUE 16-DOT TECHNIQUE

Before surgery

Right and left upper sutures are tied at minimal tension to achieve penile straightening

After surgery

Rubber bands holding down the first throw of the right and left lower sutures at the level of the tunica

DRAWBACKS AND LIMITATIONS

• Does not allow for recovery of Peyronie's length loss

• Penile shortening

• Requires satisfactory erectile function
DRAWBACKS AND LIMITATIONS

• Does not allow for recovery of Peyronie's length loss

• *May* contribute to *further* penile shortening

• Requires satisfactory erectile function
DRAWBACKS AND LIMITATIONS

• Does not address hinge, hourglass or notching deformity

• May result in penile pain, palpable knots, sensation changes (NVB mobilization)

• Incomplete correction or recurrence

• May contribute to erectile dysfunction
PENILE PLICATION SURGERY

ADVANTAGES
ADVANTAGES

• Surgical technique less invasive and technically simpler

• High rates of curvature correction, maintained erectile function, and patient satisfaction

• Can be used for deformities in more than one plane and >60 degrees
ADVANTAGES

• Contemporary procedures allow for 'step-wise' correction of curvature while the penis is erect

• Risk of neurovascular bundle injury for dorsal/lateral curvature is minimized
Treatment Framework
18. Clinicians may offer tunical plication surgery to patients whose rigidity is adequate for coitus (with or without pharmacotherapy and/or vacuum device therapy) to improve penile curvature. *(Moderate Recommendation; Evidence Strength Grade C)*
18. Clinicians may offer tunical plication surgery to patients whose rigidity is adequate for coitus (with or without pharmacotherapy and/or vacuum device therapy) to improve penile curvature. (Moderate Recommendation; Evidence Strength Grade C)
American Urological Association (AUA) Guideline

PEYRONIE’S DISEASE: AUA GUIDELINE


Guideline Statement 2.

Clinicians should perform an in-office intracavernosal injection (ICI) test with or without duplex Doppler ultrasound prior to invasive intervention. (Expert Opinion)

Guideline Statement 3.

Clinicians should evaluate and treat a man with Peyronie’s disease only when he has the experience and diagnostic tools to appropriately evaluate, counsel, and treat the condition. (Expert Opinion)
Guideline Statement 18.

Clinicians may offer tunical plication surgery to patients whose rigidity is adequate for coitus (with or without pharmacotherapy and/or vacuum device therapy) to improve penile curvature. *(Moderate Recommendation; Evidence Strength Grade C)*

**Discussion.** Sixty observational studies reported outcomes for 2,958 patients who had tunical plication surgeries of various types. $^9,^{11,103-161}$ This technique is the most common surgical strategy used to treat PD patients, representing approximately half of all surgeries conducted on PD patients (51.0% of 5,818 patients who underwent surgical reconstruction other than prosthesis surgery). Studies in which all patients had plication as well as grafting are included in this section.
The most commonly-reported outcome was the percent of patients who experienced curvature improvement post-surgery reported in 54 study arms. Forty-two study arms reported improvement rates of 90% or higher, with the majority of studies in this group reporting curvature improvement rates of 100%. Seven studies reported rates between 80 and 89%. The remaining studies had curvature improvement rates that ranged from 42% to 79%. 

References: 9, 107, 108, 118, 146, 156, 158, 104, 119, 136, 139, 143
<table>
<thead>
<tr>
<th>Condition</th>
<th># of Studies</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urethral laceration</td>
<td>7</td>
<td>0.00</td>
<td>4.35</td>
</tr>
<tr>
<td>Urinary retention</td>
<td>4</td>
<td>1.40</td>
<td>16.70</td>
</tr>
<tr>
<td>UTI</td>
<td>2</td>
<td>0.60</td>
<td>0.64</td>
</tr>
<tr>
<td>Superficial skin necrosis minor</td>
<td>2</td>
<td>0.46</td>
<td>8.30</td>
</tr>
<tr>
<td>Skin necrosis major</td>
<td>1</td>
<td>0.46</td>
<td>0.46</td>
</tr>
<tr>
<td>Hematoma</td>
<td>9</td>
<td>0.00</td>
<td>10.91</td>
</tr>
<tr>
<td>Hematoma requiring reoperation</td>
<td>5</td>
<td>0.00</td>
<td>1.38</td>
</tr>
<tr>
<td>Wound infection</td>
<td>13</td>
<td>0.00</td>
<td>6.70</td>
</tr>
<tr>
<td>Chest infection</td>
<td>2</td>
<td>1.70</td>
<td>2.87</td>
</tr>
<tr>
<td>Palpable or painful su-</td>
<td>11</td>
<td>0.00</td>
<td>35.5</td>
</tr>
<tr>
<td>Suture granuloma</td>
<td>6</td>
<td>0.46</td>
<td>3.60</td>
</tr>
<tr>
<td>Phimosis</td>
<td>8</td>
<td>0.00</td>
<td>5.10</td>
</tr>
<tr>
<td>Persistent erectile or penile pain post-</td>
<td>8</td>
<td>0.00</td>
<td>27.60</td>
</tr>
</tbody>
</table>
Nineteen studies reported rates of persistent change in penile sensation ranging from 0% to 25%. Ten studies reported rates of 0%,\textsuperscript{180,182,183,193,197,203,204,220,235,238} five reported rates of <5%,\textsuperscript{163,194,207,214,225} and the remaining four studies reported rates that ranged from 9.8% to 25%.\textsuperscript{181,185,210,215}
The Panel notes that because plication surgery is not a treatment for ED and because the consequences of plication surgery with regard to erectile function remain unclear, the most appropriate candidates for plication surgery are patients with intact erectile function or with ED responsive to oral medications or vacuum pump therapy or ICI therapy. The Panel emphasizes the importance of obtaining objective baseline measures of PD signs and symptoms in order to adequately counsel patients and rationally evaluate surgical outcomes. Hudak (2013) reported that while 84% of patients had no measurable decrease in SPL, 78% reported a perceived penile length reduction. Taylor & Levine (2008) reported that 69% of patients perceived a post-surgery loss in penile length but a loss could be documented in only 18%.
Thirty-six studies validly measured erectile function before and after surgery. Findings from these studies are mixed, with some studies reporting no change in erectile function post-surgery, some reporting that erectile function deteriorated in some patients, and some reporting that erectile function improved in some patients.
To evaluate the outcome of the long-term follow-up in patients who underwent corporoplasty-straightening treatment for Peyronie’s disease. Between 1990 and 2012, a total of 89 patients underwent corporoplasty-straightening surgery using penile plication for Peyronie’s disease. We followed up on all the patients for the following: (a) the correction of the curvature; (b) any penile shortening; (c) sexual function; and (d) complications. The mean follow-up period was 103 months. Complete correction of the curvature was obtained in 81 patients (91%). Shortening of the penis (1.5 to <3 cm) occurred in 20 patients (22.5%) and 79 patients (88.7%) had good erectile function (International Index of Erectile Function (IIEF) 5 > 21). The most frequent complication was the sensitivity reduction of the glans in eight patients (8.9%), which was resolved within about a year after surgery (mean 11 months) and the shortening of the penis in 20 patients (22.5%), which, however, did not result in problems during sexual intercourse. Corporoplasty using penile straightening plication is a safe procedure whose results are maintained for even many years after surgery. It is a procedure that can be applied to any type of curvature. Any reduction in the length of the penis, as a result of the surgery procedure, does not lead to difficulties in sexual intercourse.

International Journal of Impotence Research (2014) 26, 156–159; doi:10.1038/ijir.2014.6; published online 27 February 2014

<table>
<thead>
<tr>
<th>Table 3. Erectile function at long-term follow-up (mean 103 months)</th>
</tr>
</thead>
<tbody>
<tr>
<td>IIEF-5 score</td>
</tr>
<tr>
<td>&lt;10</td>
</tr>
<tr>
<td>3 (3.4%)</td>
</tr>
</tbody>
</table>

Abbreviation: IIEF, International Index of Erectile Function.
PEYRONIE’S DISEASE: AUA GUIDELINE

The Panel notes that because plication surgery is not a treatment for ED and because the consequences of plication surgery with regard to erectile function remain unclear, the most appropriate candidates for plication surgery are patients with intact erectile function or with ED responsive to oral medications or vacuum pump therapy or ICI therapy. The Panel emphasizes the importance of obtaining objective baseline measures of PD signs and symptoms in order to adequately counsel patients and rationally evaluate surgical outcomes. Hudak (2013) reported that while 84% of patients had no measurable decrease in SPL, 78% reported a perceived penile length reduction. Taylor & Levine (2008) reported that 69% of patients perceived a post-surgery loss in penile length but a loss could be documented in only 18%. 
Dorsal Plication Without Degloving Is Safe and Effective for Correcting Ventral Penile Deformities

Paul H. Chung, Timothy J. Tausch, Jay Simhan, J. Francis Scott, and Allen F. Morey

Figure 1. (A) Preoperative photograph of a patient who has significant (63°) ventral curvature. (B) Postoperative photograph of the same patient after 8 dorsal plication sutures were placed. Note the 2-cm longitudinal incision on the dorsal aspect of the shaft. This incision was mobilized along the entire length of the shaft allowing for precise placement of the plicating sutures. (Color version available online.)
Lessons learned from the prospective evaluation of penile traction physiotherapy device utilization in 100 consecutive men with Peyronie’s disease

Anthony J Bella*, Ottawa, Canada, Michael B Greenspan, Hamilton, Canada, William O Brant, Salt Lake City, UT

INTRODUCTION AND OBJECTIVES: Despite limitations to evidence, traction therapy (TT) for Peyronie's disease (PD) is expanding. Publications suggest TT in conjunction with intralesional (IL) and oral therapies or post-PD surgery. TT remains heterogenous, given the myriad of devices available and absence of defining trials for device type, frequency and duration, traction force, etc. Mulhall's group (J Urol 189(4):e680-e681, 2013) TT compliance data shows 20% use as suggested in the first month (mth) with none afterwards. We report a large prospective series to determine technical and patient (pt) considerations, and the practice-changing lessons learned.

METHODS: From January 2013 through end of March 2013, 100 men with PD at a subspecialty academic practice initiated TT. All underwent standardized TT teaching (demonstration device) by a single urosurgeon; F/U at one-month with the TT device applied by the pt as at-home. 42 pts qualified for and completed the IL program (hospital-based and sponsored, 168 pts per year, 12 IL injections over 12 weeks) through mid-October with in-clinic evaluation of progress q 2 wks. 55/58 non-IL pts were seen in follow-up with their TT device at about 6 mths.

RESULTS: All pts were seen at 4 weeks, with 28/100 men using the TT device optimally. The most common deficit was lack of sufficient applied traction; seeing how the penis was stretched with their own device reinforced technique. Self-scoring was utilized (1-4 strap holder, spacers showing 1-6, based on www.mens-progress.com device, but modifiable to most TT devices). Email updates encouraged if not in IL program (used by 34/58). IL pts had q 2 wk TT inspections. Adequate traction was maintained in 42/42 at end of IL, and 37/58 at non-IL 6 mth fu. Three academic institutions utilizing the same type of TT device reviewed this data set, as well as common pitfalls observed in non-study PD pts using TT, instituting general and site-specific optimizations including customized pt information cards (teaching and self-assessment components), feasibility of scheduled email check-ins, and a mandatory one-month check-in with TT device at the onset of treatment.

CONCLUSIONS: We believe findings are applicable to all TT pts, regardless of device type. Given cost and time considerations, in-person device optimization may be considered standard operating procedure. Self-scored measurements provide objective pt feedback between urosurgeon assessments while electronic updates may serve as a secondary motivator.

Source of Funding: None
A Surgical Algorithm for Men with Combined Peyronie’s Disease and Erectile Dysfunction: Functional and Satisfaction Outcomes

John Mulhall,* Matthew Anderson,† and Marilyn Parker†

Figure 3 Comparison of International Index of Erectile Function (IIEF) combined satisfaction scores between corporoplasty, plaque incision/grafting, and penile implant surgery groups. Within-surgical group comparison was conducted for the three time points (pretreatment, preoperative, and postoperative) by using Wilcoxon matched-pairs test (SPSS, Chicago, IL). Between-surgical group comparison for each time point (pretreatment, preoperative, and postoperative) was conducted by using the Mann–Whitney U-test.

- Do we graft too much?
<table>
<thead>
<tr>
<th>Table 5</th>
<th>Peyronie’s disease surgical algorithm</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. When rigidity adequate preoperatively with or without oral pharmacotherapy:</td>
<td></td>
</tr>
<tr>
<td>A. Tunica plication when—</td>
<td></td>
</tr>
<tr>
<td>i. Curvature $\leq 60-70^\circ$</td>
<td></td>
</tr>
<tr>
<td>ii. No destabilizing hour-glass or hinge</td>
<td></td>
</tr>
<tr>
<td>iii. Predicted loss of length $&lt;20%$ erect length</td>
<td></td>
</tr>
<tr>
<td>B. Plaque Incision/Partial Excision and grafting when—</td>
<td></td>
</tr>
<tr>
<td>i. Curvature $&gt;60-70^\circ$</td>
<td></td>
</tr>
<tr>
<td>ii. Destabilizing hinge</td>
<td></td>
</tr>
<tr>
<td>II. When rigidity suboptimal</td>
<td></td>
</tr>
<tr>
<td>A. Penile prosthesis implantation</td>
<td></td>
</tr>
</tbody>
</table>
In the words of our colleague Bud Burnett, M.D. –

Grafting should never be obsolete, just used more selectively!

absolutely right!

Slide modified from original provided by Dr L Levine
Dorsal Plication for Correction of Penile Curvature

Penile plication has traditionally been recommended for patients with simple curvatures $<60^\circ$. Recently, plication has been shown to be effective with high patient satisfaction for complex curvatures (biplanar and curvatures $>60^\circ$). Dorsal plication for correction of ventral deformities is more technically challenging than dorsal or lateral deformities, often requiring ancillary maneuvers such as resection of the dorsal vein or mobilization of the NVBs to perform a modified Yachia corporoplasty. Our series reveals that dorsal plication can safely be performed without these aggressive maneuvers with excellent cosmetic and functional results.
Dorsal Plication for Correction of Penile Curvature
Penile plication has traditionally been recommended for patients with simple curvatures $<60^\circ$. Recently, plication has been shown to be effective with high patient satisfaction for complex curvatures (biplanar and curvatures $>60^\circ$). Dorsal plication for correction of ventral deformities is more technically challenging than dorsal or lateral deformities, often requiring ancillary maneuvers such as resection of the dorsal vein $^3$ or mobilization of the NVBs to perform a modified Yachia corporoplasty. $^{13}$ Our series reveals that dorsal plication can safely be performed without these aggressive maneuvers with excellent cosmetic and functional results.

CONCLUSION
Penile plication is a safe and effective technique for correcting all directions of penile deformity. Dorsal penile plication for ventral curvature is equivalent to ventral and lateral plication despite the proximity of the NVB.
Decision-making is governed by degree of curvature, erectile function, and associated penile deformities.

Technique selection should be based upon surgeon preference, expertise, and experience, as evidence does not necessarily support one procedure over another.
Peyronie’s Disease Surgical Therapy

Plication is the **Best Option**

Anthony J. Bella MD, FRCSC
Greta and John Hansen Chair in Men’s Health Research
Division of Urology, Department of Surgery
University of Ottawa