IN THE NAME OF GOD

RADICAL PROSTATECTOMY

BY; Dr HASSANZADEH

Ca.P

- Age
- Blacks
- Diet
- Androgen
- Vasectomy
- Cigarette
- Sexual

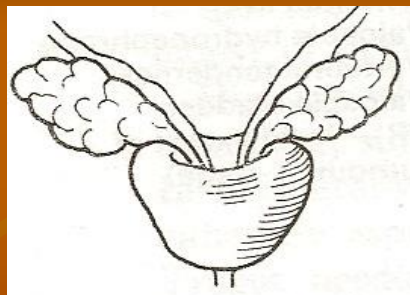
Diagnosis

- DRE
- PSA
- Biopsy
- PSA density
- PSAvelosity
- Free/total PSA

Table 94–5. Prostate Cancer Staging Systems

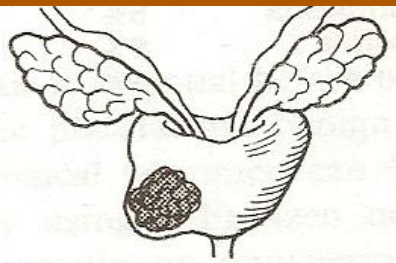
TNM			Whitmore-Jewett	Description
1997	*1992*	*Description*		
TX	TX	Primary tumor cannot be assessed	None*	None
T0	T0	No evidence of primary tumor	None	None
T1	*T1*	*Nonpalpable tumor—not evident by imaging*	A	Same as TNM
T1a	*T1a*	*Tumor found in tissue removed at TUR; 5% or less is cancerous and histologic grade <7*	A1	*Same as TNM*
T1b	T1b	Tumor found in tissue removed at TUR; >5% is cancerous or histologic grade >7	A2	Same as TNM
T1c	T1c	Tumor identified by prostate needle biopsy due to elevation in PSA	None	None
T2	T2	Palpable tumor confined to the prostate	B	Same as TNM
T2a		Tumor involves one lobe or less	B1	Same as TNM
	T2a	Tumor involves less than half of one lobe	B1N	Tumor involves half of lobe—surrounded by normal tissue on all sides
T2b		Tumor involves more than one lobe	B2	Same as TNM
	T2b	Tumor involves more than half of a lobe but not both lobes	B1	Same as TNM
None	T2c	Tumor involves more than one lobe	B2	Same as TNM
T3	T3	Palpable tumor beyond prostate	C1	Tumor <6 cm in diameter
T3a	T3a	Unilateral extracapsular extension	C1	Same as TNM
T3b	T3b	Bilateral extracapsular extension	C1	Same as TNM
T3c	T3c	Tumor invades seminal vesicle(s)	C1	Same as TNM
T4	T4	Tumor is fixed or invades adjacent structures (not seminal vesicles)	C2	Same as TNM
T4a	T4a	Tumor invades bladder neck, external sphincter, and/or rectum	C2	Same as TNM
T4b	T4b	Tumor invades levator muscle and/or fixed to pelvic wall	C2	Same as TNM
N(+)	N(+)	Involvement of regional lymph nodes	D1	Same as TNM
None	None	None	D0	Elevated prostatic acid phosphatase
NX	NX	Regional lymph nodes cannot be assessed	None	None
N0	N0	No lymph node metastases	None	None
N1	N1	Metastases in single regional lymph node, ≤2 cm in dimension	D1	Same as TNM
N2	N2	Metastases in single (>2 but ≤5 cm) or multiple with none >5 cm	D1	Same as TNM
N3	N3	Metastases in regional lymph node >5 cm in dimension	D1	Same as TNM
M(+)	M(+)	Distant metastatic spread	D2	Same as TNM
MX	MX	Distant metastases cannot be assessed	None	None
M0	M0	No evidence of distant metastases	None	None
M1	M1	Distant metastases	D2	Same as TNM
M1a	M1a	Involvement of nonregional lymph nodes	D2	Same as TNM
M1b	M1b	Involvement of bones	D2	Same as TNM
M1c	M1c	Involvement of other distant sites	D2	Same as TNM
None	None	None	D3	Hormonal refractory disease

TNM, tumor, node, metastasis; TUR, transurethral resection.

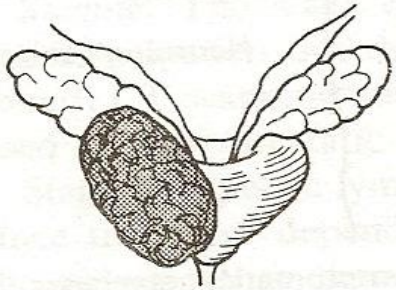


T_0 — No tumour palpable (incidental carcinoma)

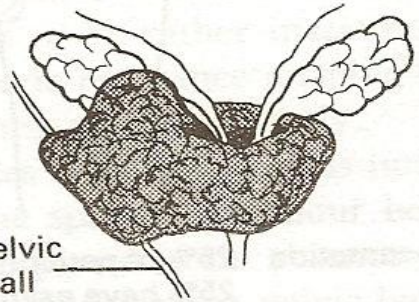
T_1 — Intracapsular nodule, surrounded by normal gland



T_2 — Intracapsular nodule that deforms the gland



T_3 — Extension beyond the capsule



T_4 — Fixed to neighbouring structures

INCIDENCE OF POSITIVE PELVIC LYMPH NODES

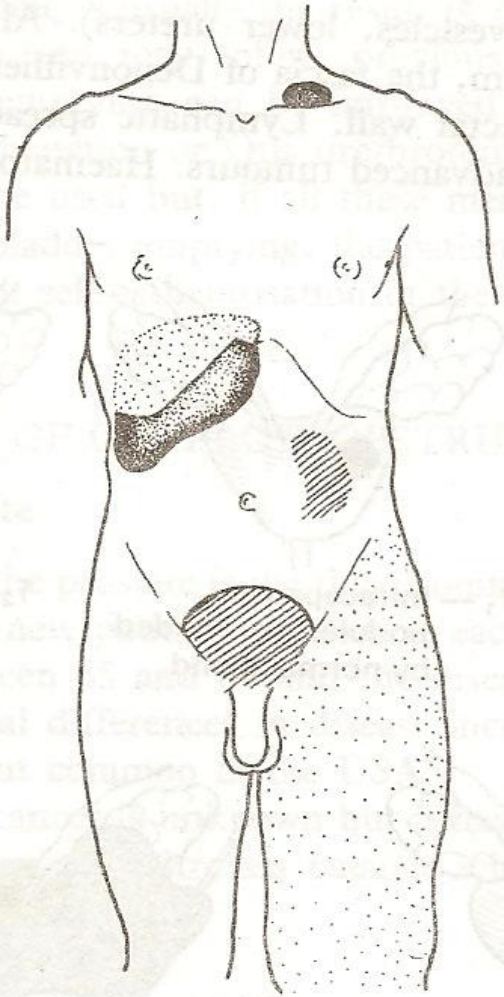
T Category	%
T_0 (focal)	0
T_0 (diffuse)	20
T_1	15
T_2	30
T_3	50
T_4	85

Fig. 17.9 T staging for carcinoma of prostate

SYMPTOMS

'Prostatism'	70%
Acute retention	25%
Back pain	15%
Haematuria	5%
Uraemia	5%
Anuria	1%

Also:
- weight loss & fatigue
- perineal pain
- haemospermia
- constipation
- paraplegia



EXAMINATION

- Anaemia
- Supraclavicular nodes
- Enlarged liver
- Palpable hydronephrosis
- Vertebral tenderness
- Palpable bladder
- PR — local extent of tumour (T-stage)

- Swollen leg from iliac vein occlusion
- Penile and scrotal oedema
- Neurological signs

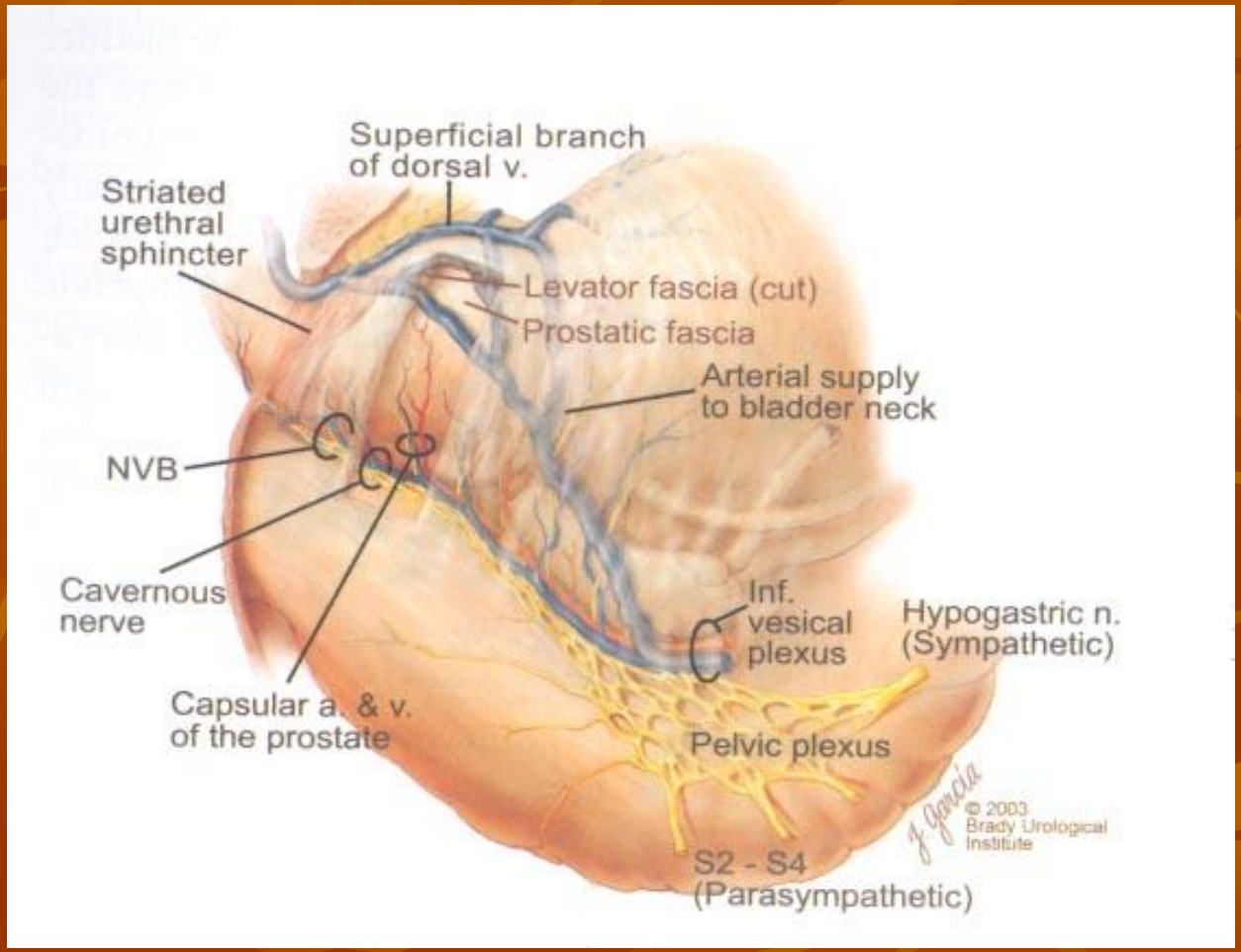
At presentation: 25% of patients have symptomatic metastases
25% have asymptomatic metastases

Fig. 17.10 Clinical features in carcinoma of the prostate

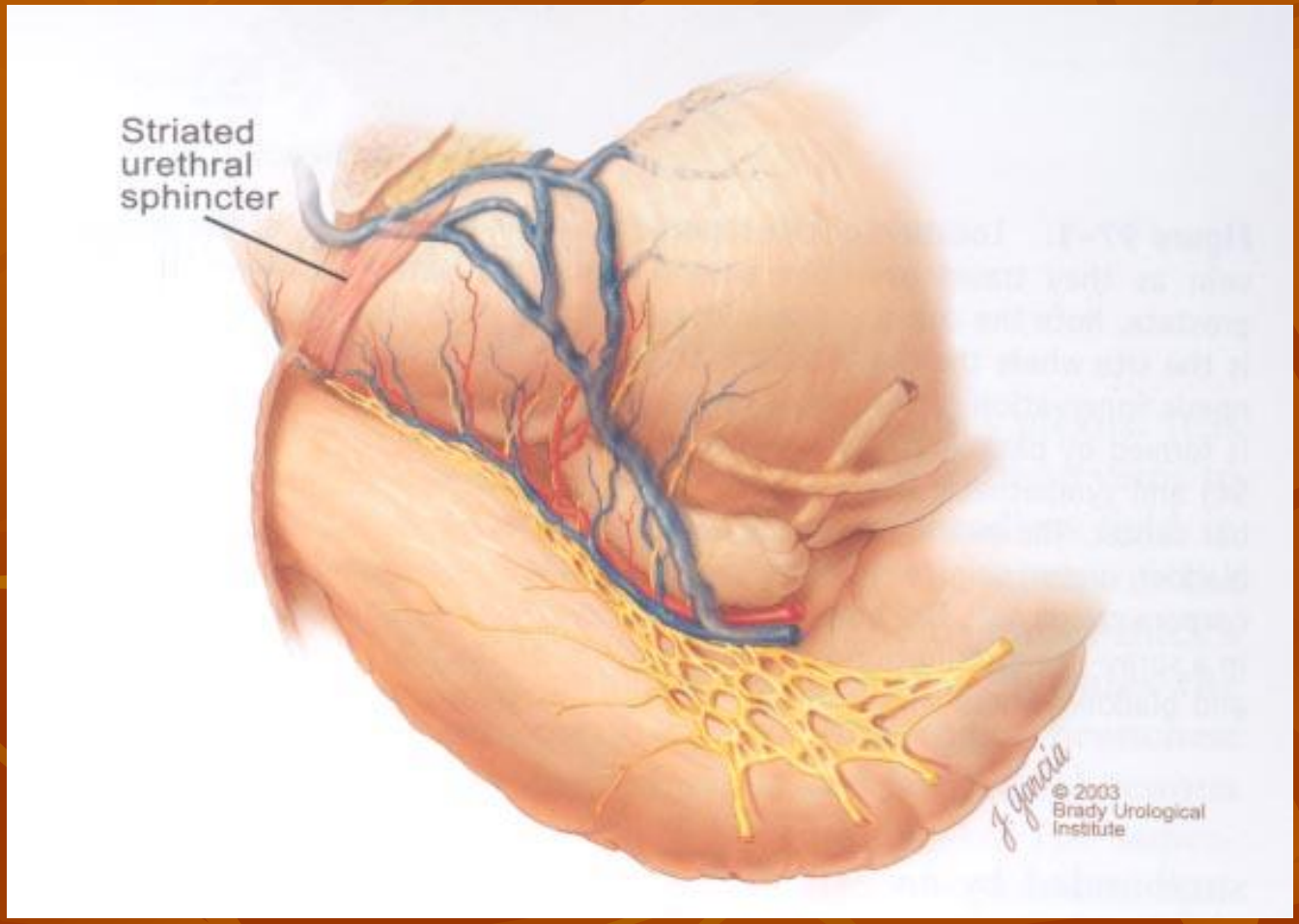
TREATMENT

- Watchful waiting
- Radical prostatectomy
- Radiotherapy
- Androgen depreviation
- castration
- medical castration;strogen,LHRH agonist
- block in target cell anti-androgens
- MAB

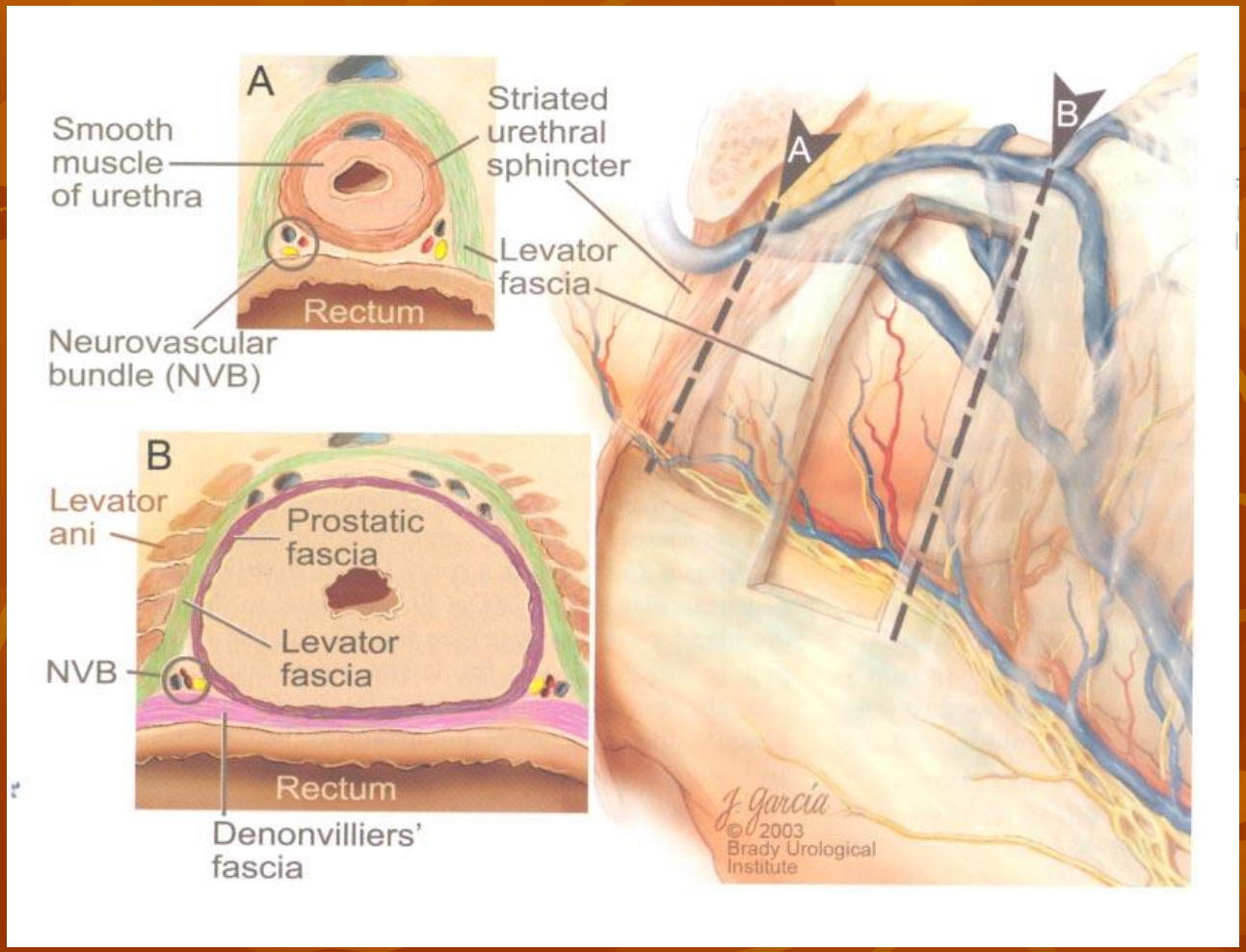
1


Superficial branch of dorsal v.
Striated urethral sphincter
Levator fascia (cut)
Prostatic fascia
Arterial supply to bladder neck
NVB
Cavernous nerve
Inf. vesical plexus
Hypogastric n. (Sympathetic)
Capsular a. & v. of the prostate
Pelvic plexus
© 2003 Brady Urological Institute
S2 - S4 (Parasympathetic)

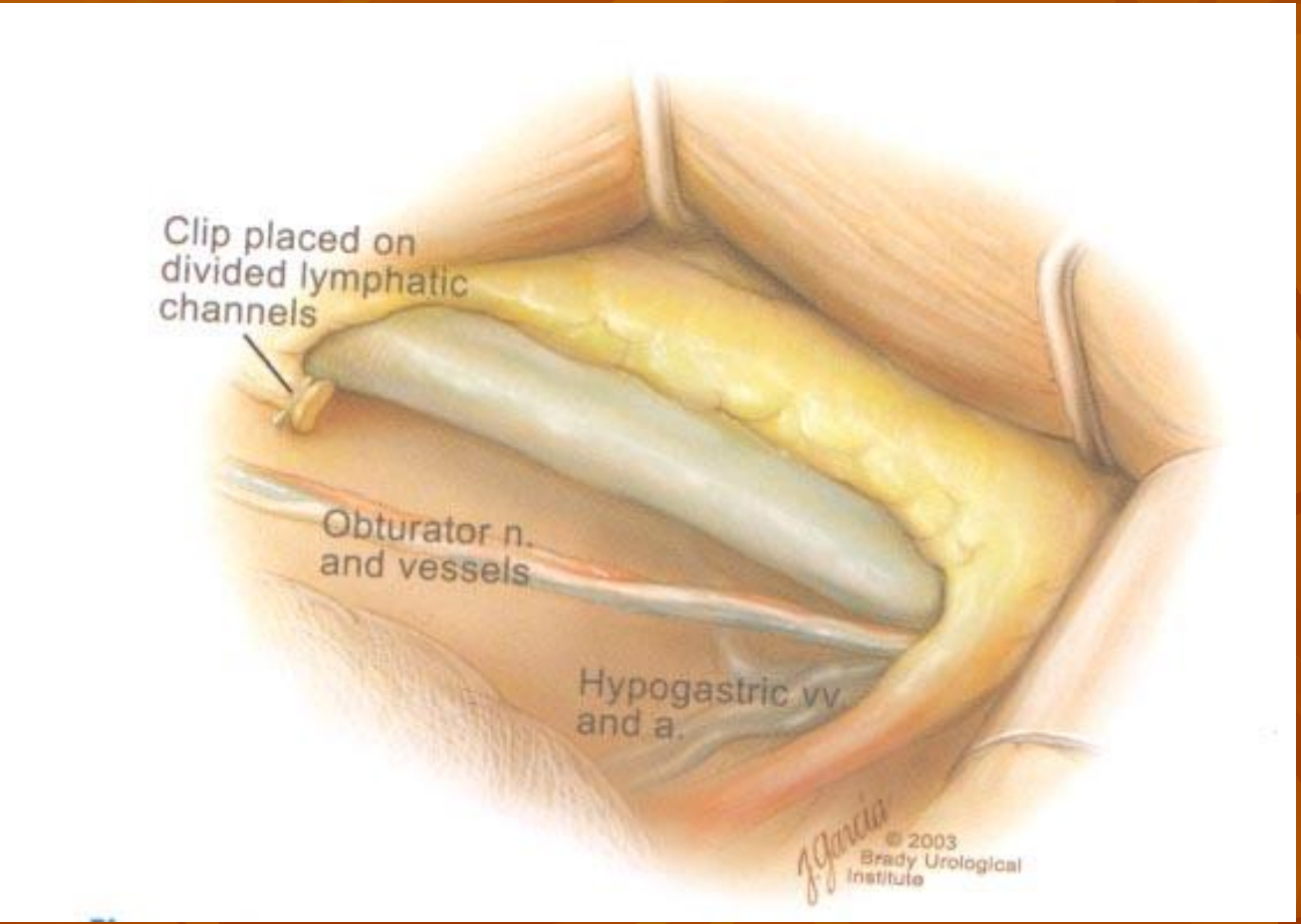
2


Striated
urethral
sphincter
© 2003
Brady Urological
Institute

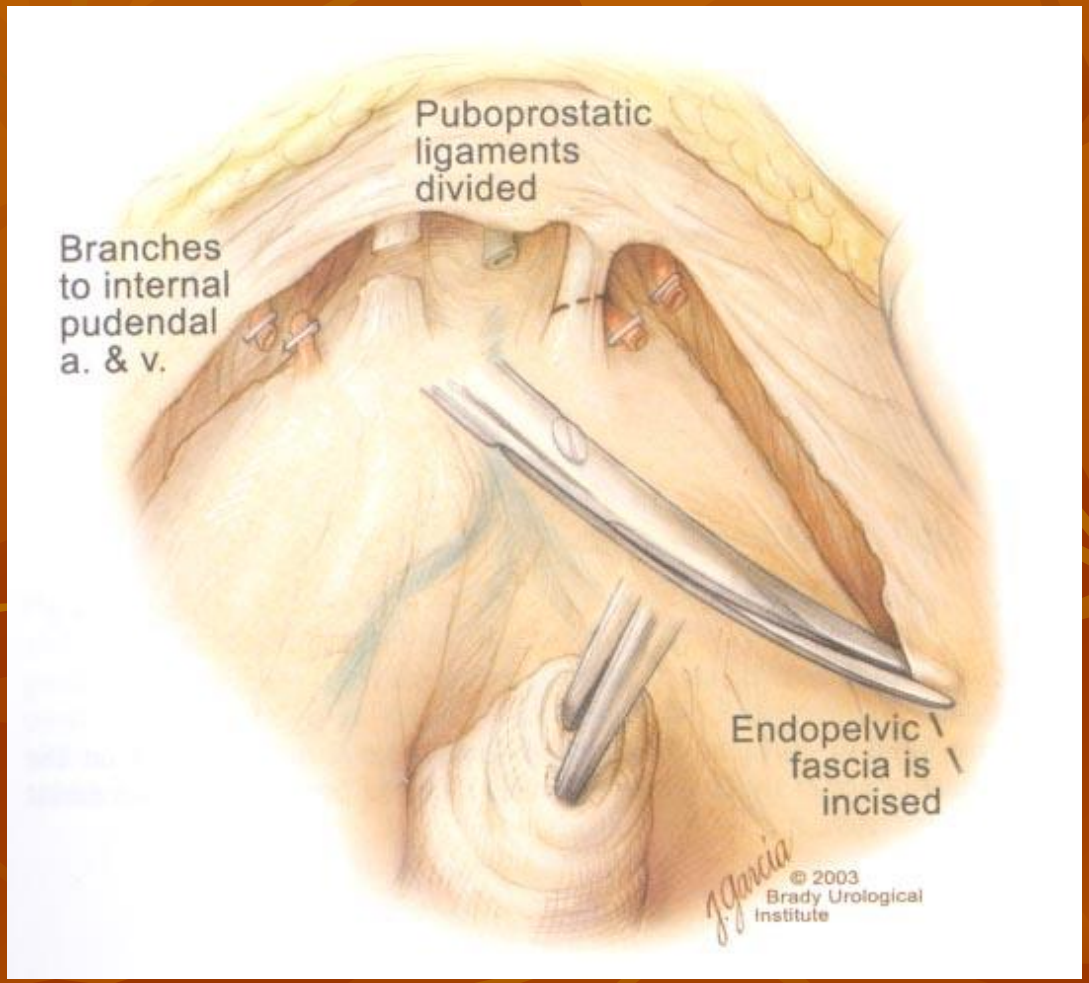
3


A
Smooth muscle of urethra
Striated urethral sphincter
Levator fascia
Rectum
Neurovascular bundle (NVB)
B
Levator ani
Prostatic fascia
Levator fascia
NVB
Rectum
Denonvilliers' fascia
A
B
J. Garcia
©2003 Brady Urological Institute

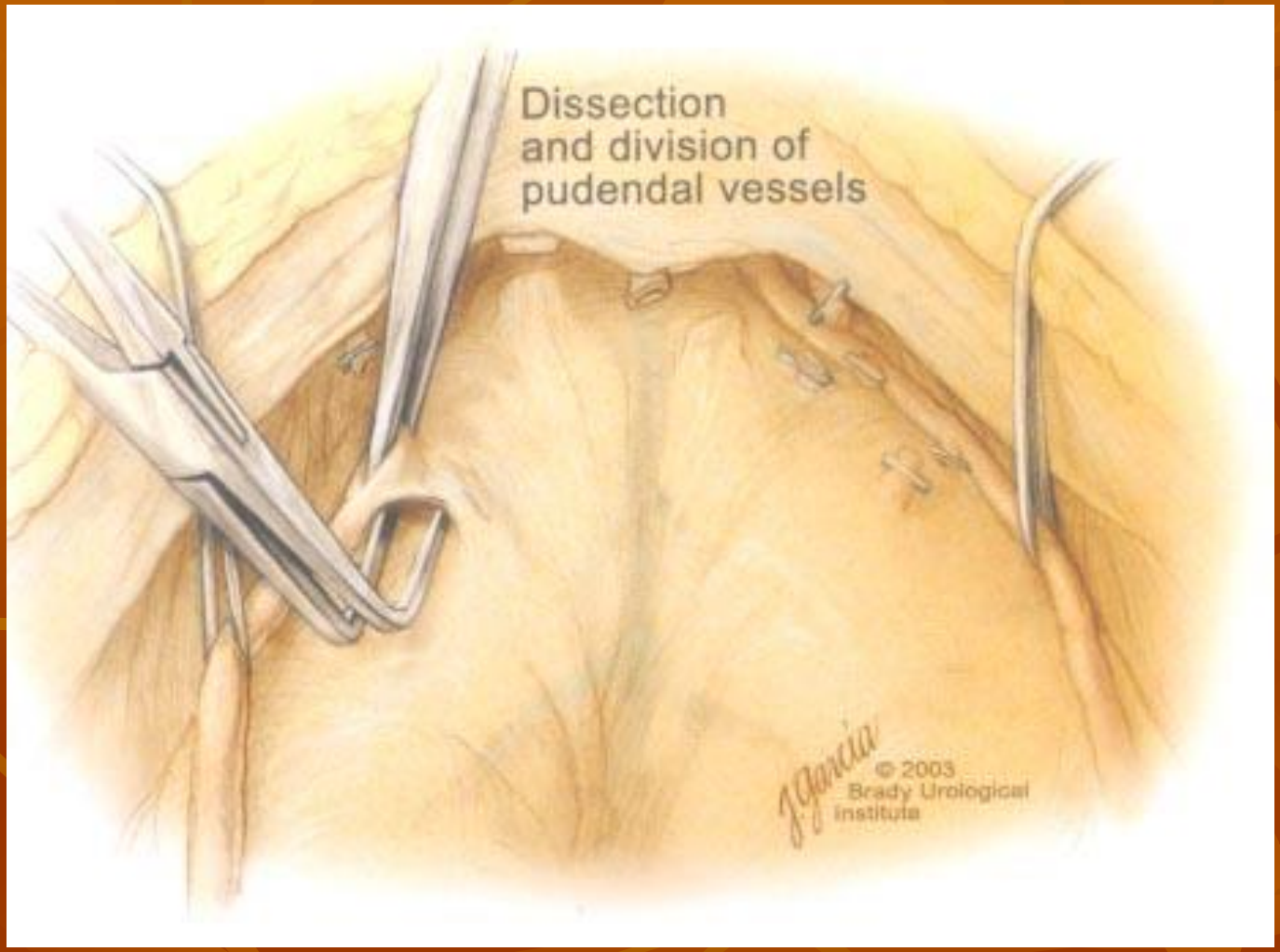
4


Clip placed on
divided lymphatic
channels
Obturator n.
and vessels
Hypogastric vv.
and a.
© 2003
Brady Urological
Institute

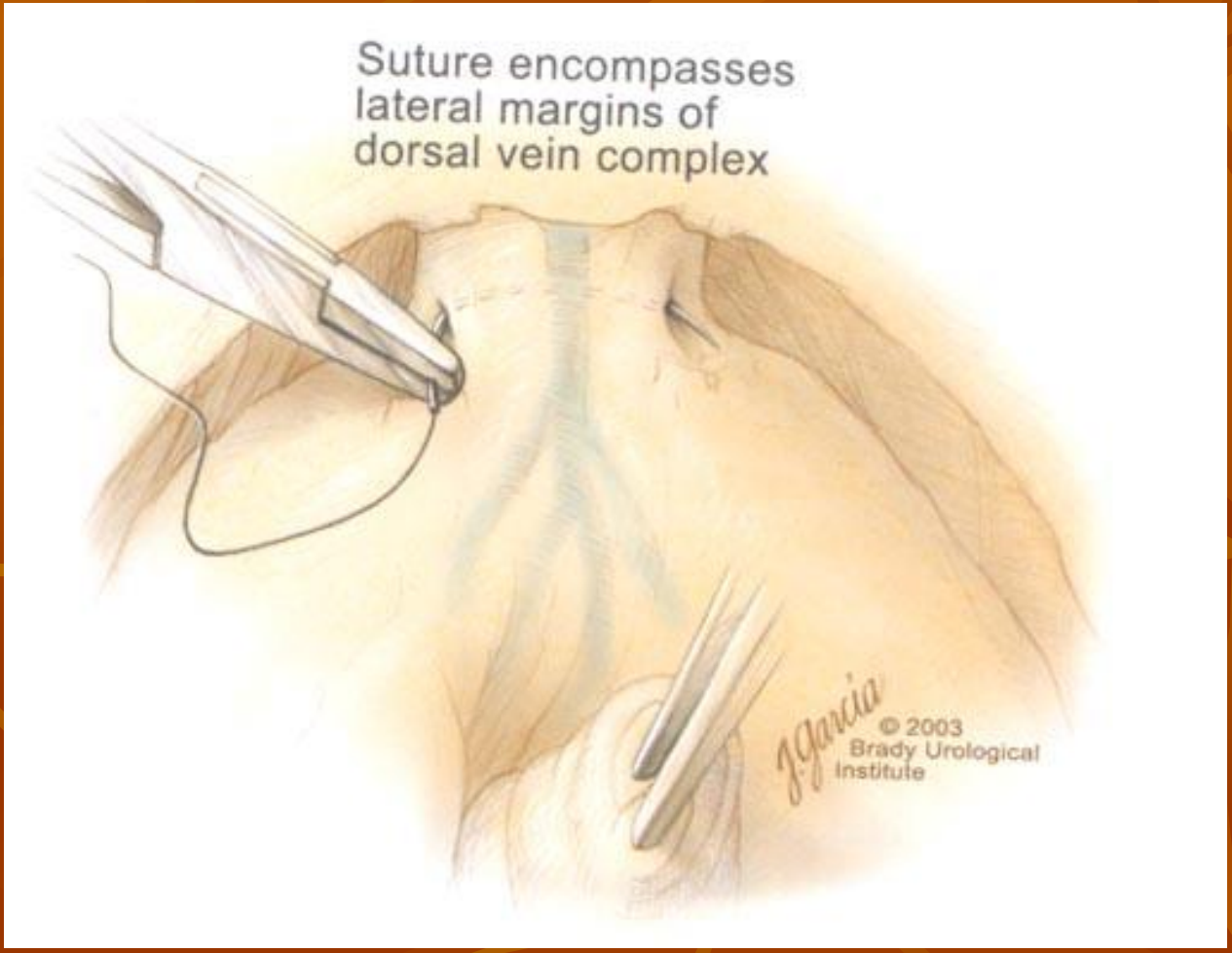
5


Puboprostatic ligaments divided
Branches to internal pudendal a. & v.
Endopelvic fascia is incised
J. Garcia
© 2003 Brady Urological Institute

6


Dissection
and division of
pudendal vessels
© 2003
Brady Urological
Institute

7


Suture encompasses
lateral margins of
dorsal vein complex
J.Garcia
© 2003
Brady Urological
Institute

8

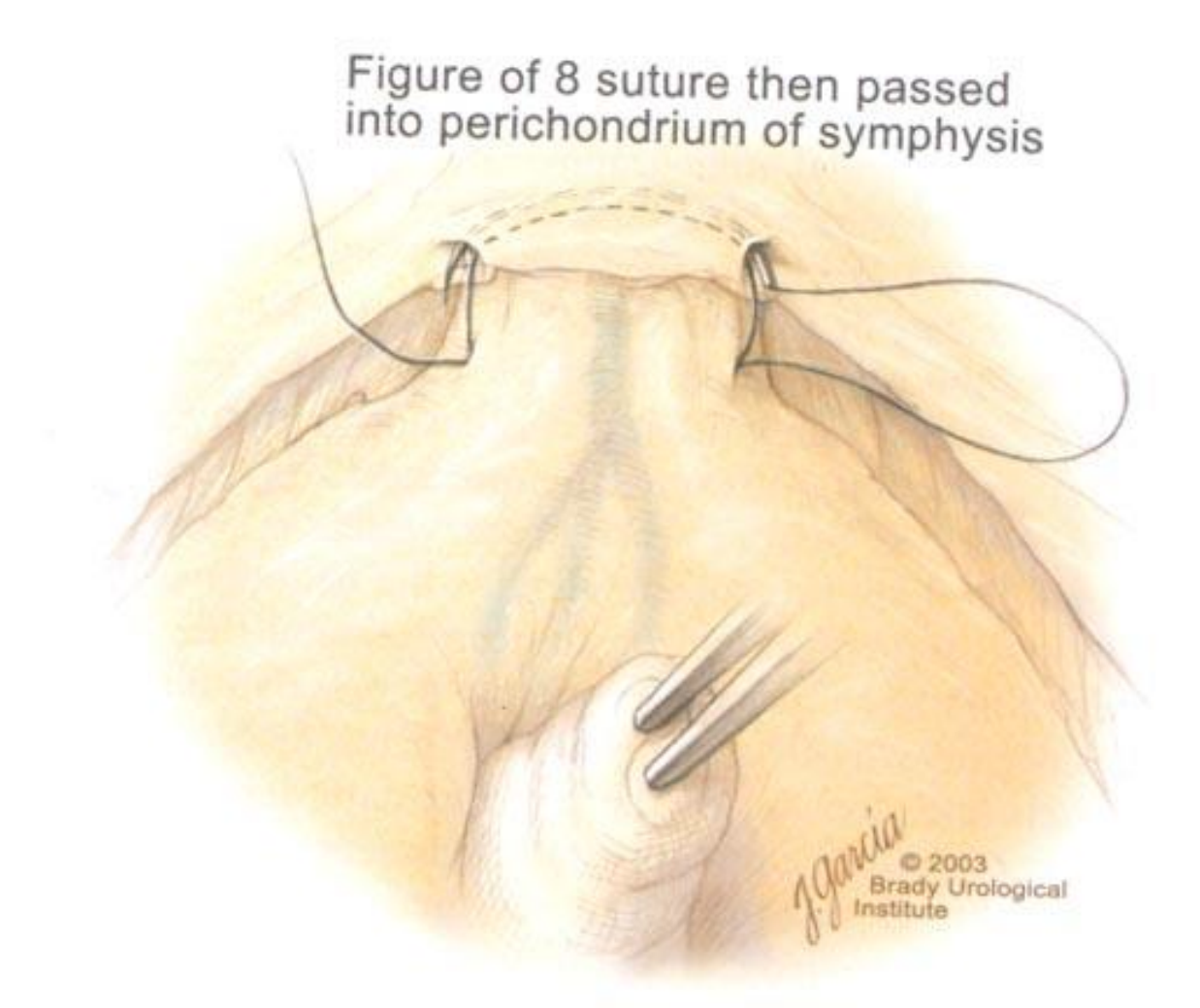
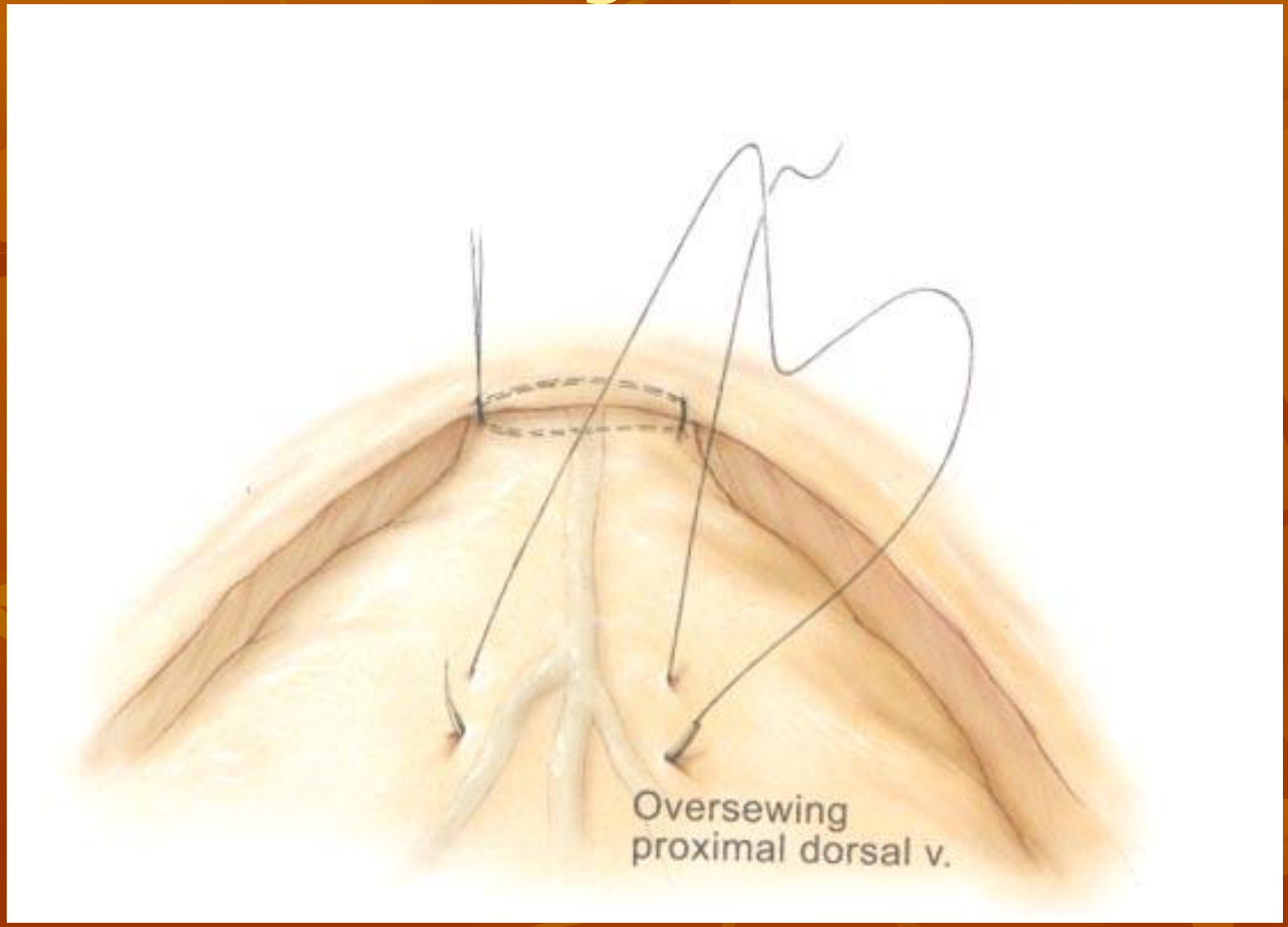
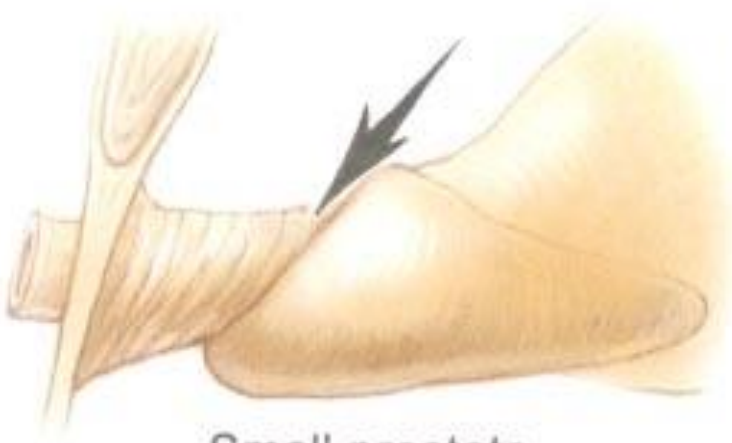


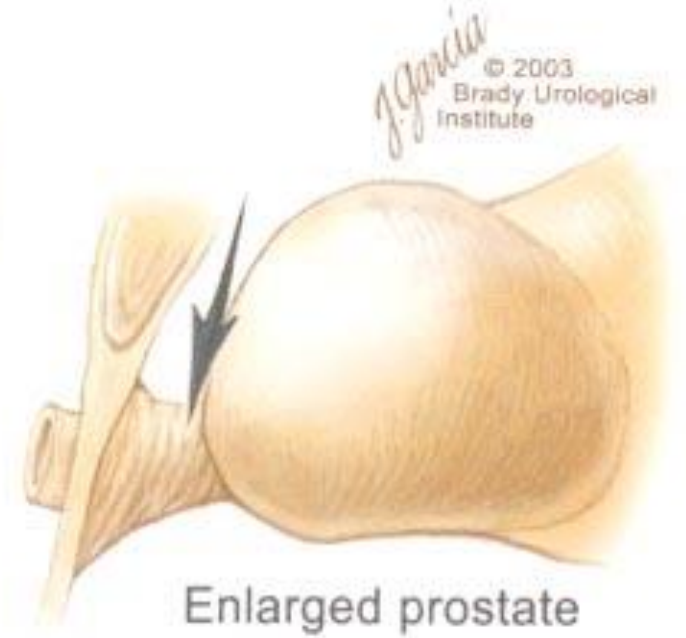
Figure of 8 suture then passed into perichondrium of symphysis
J.Garcia
© 2003
Brady Urological Institute

9

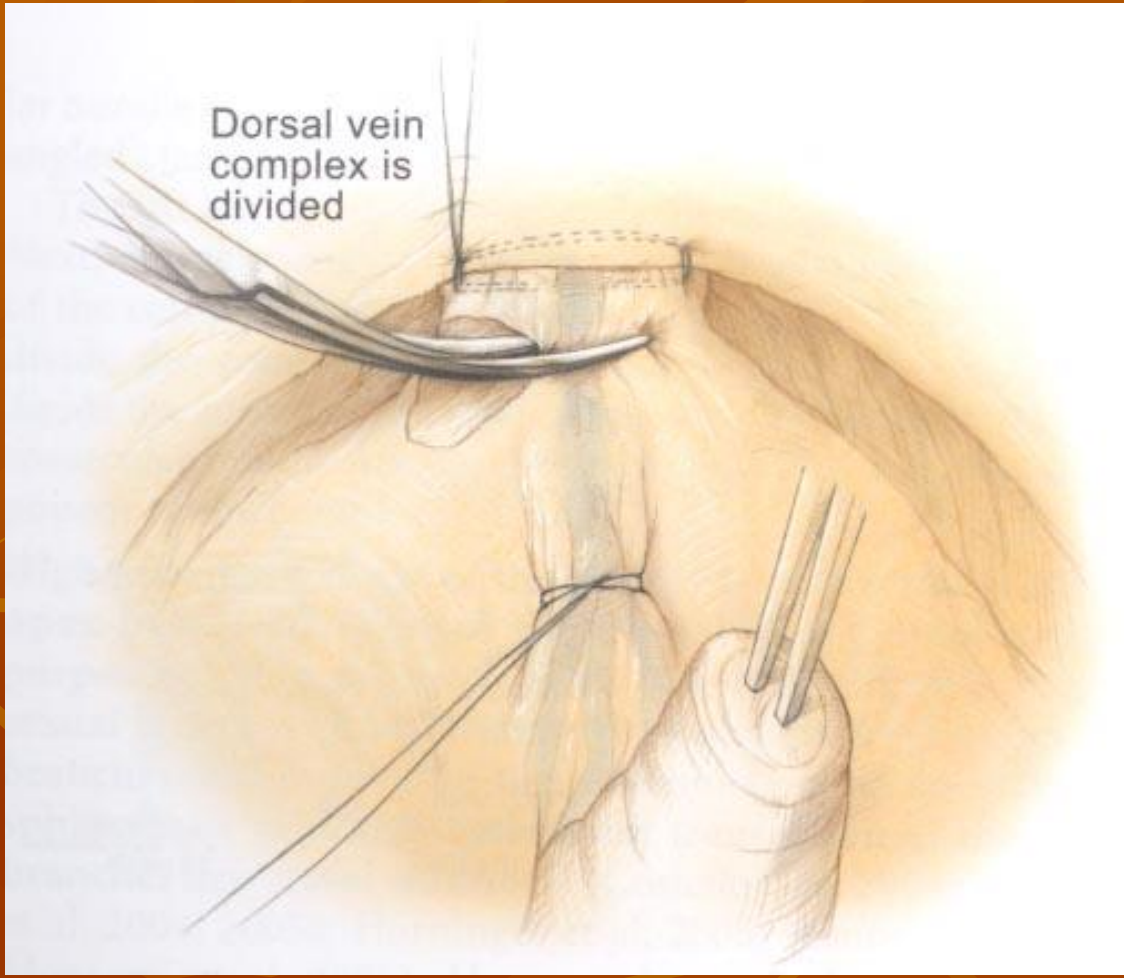


10

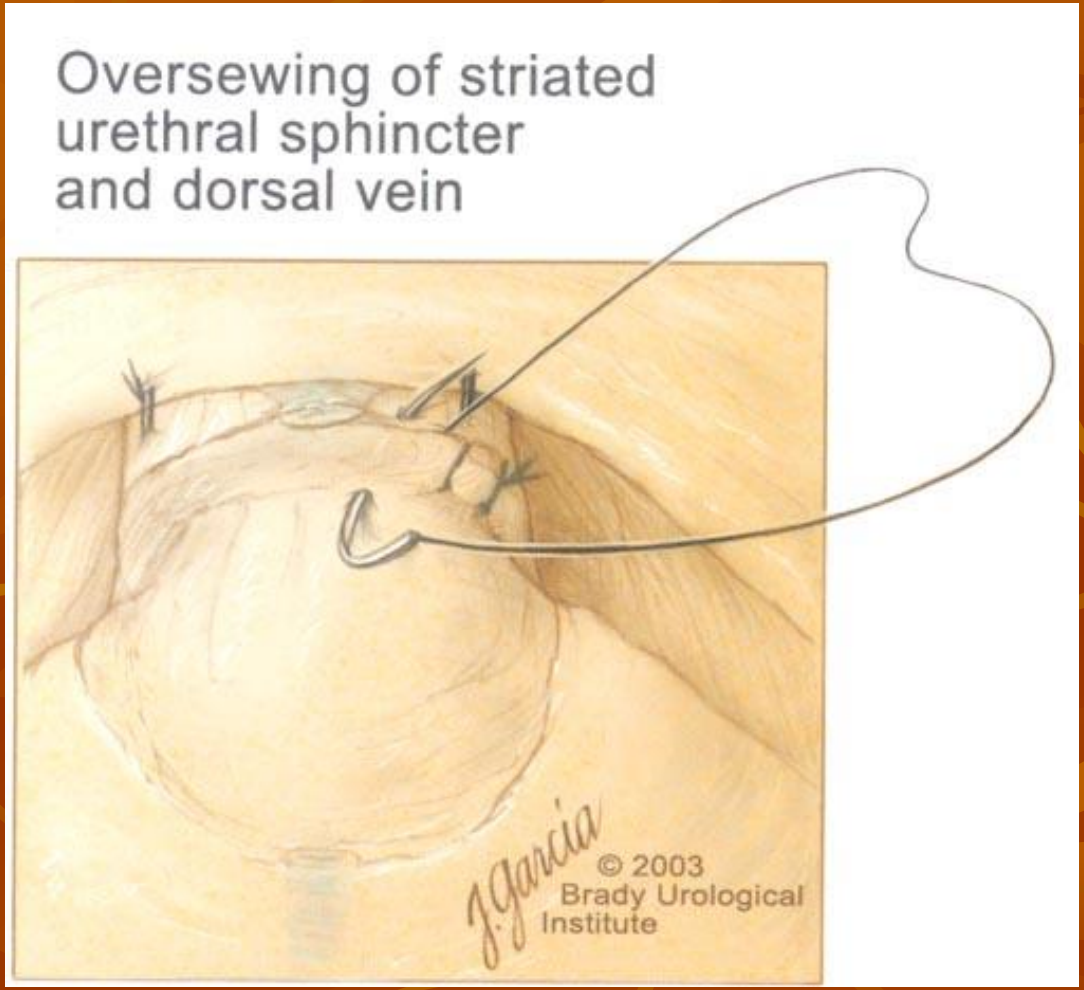

Small prostate


J.Garcia
© 2003
Brady Urological
Institute
Enlarged prostate

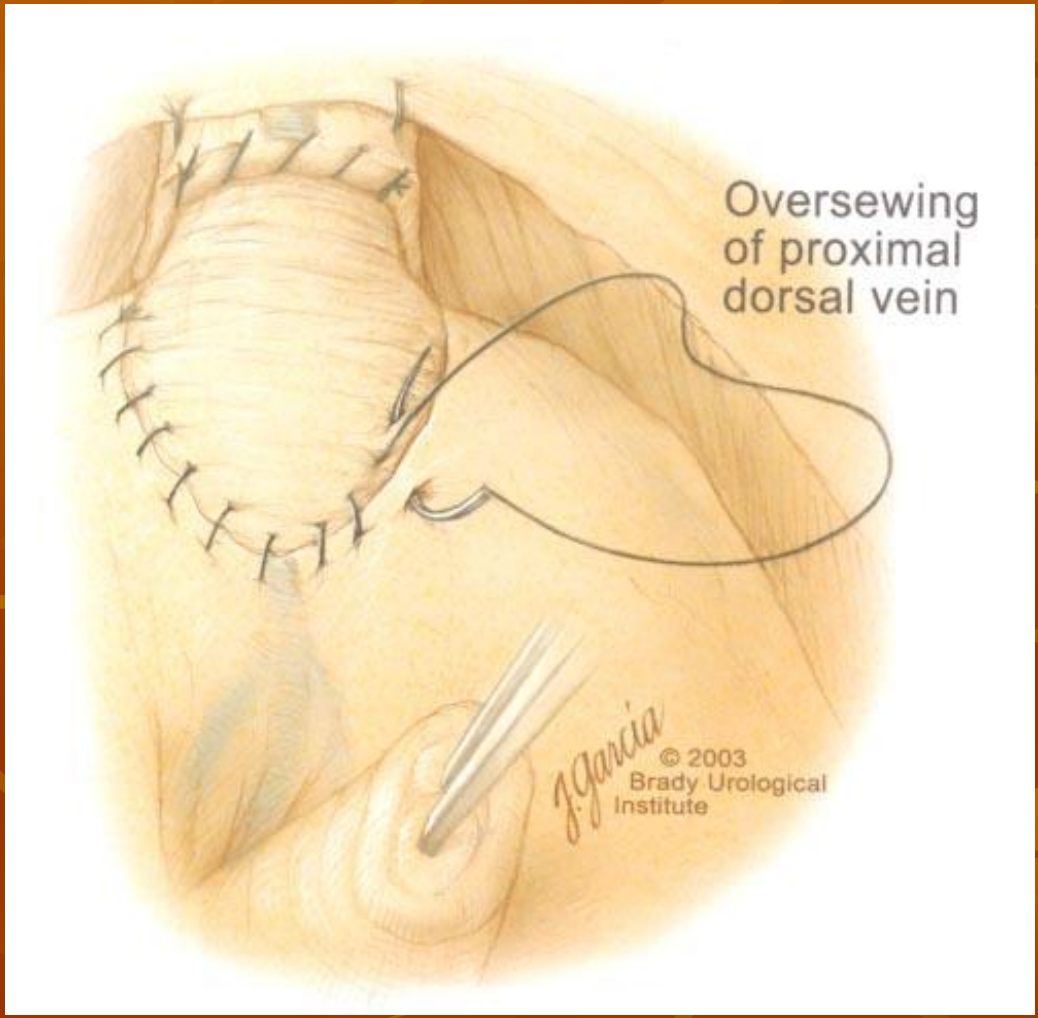
11



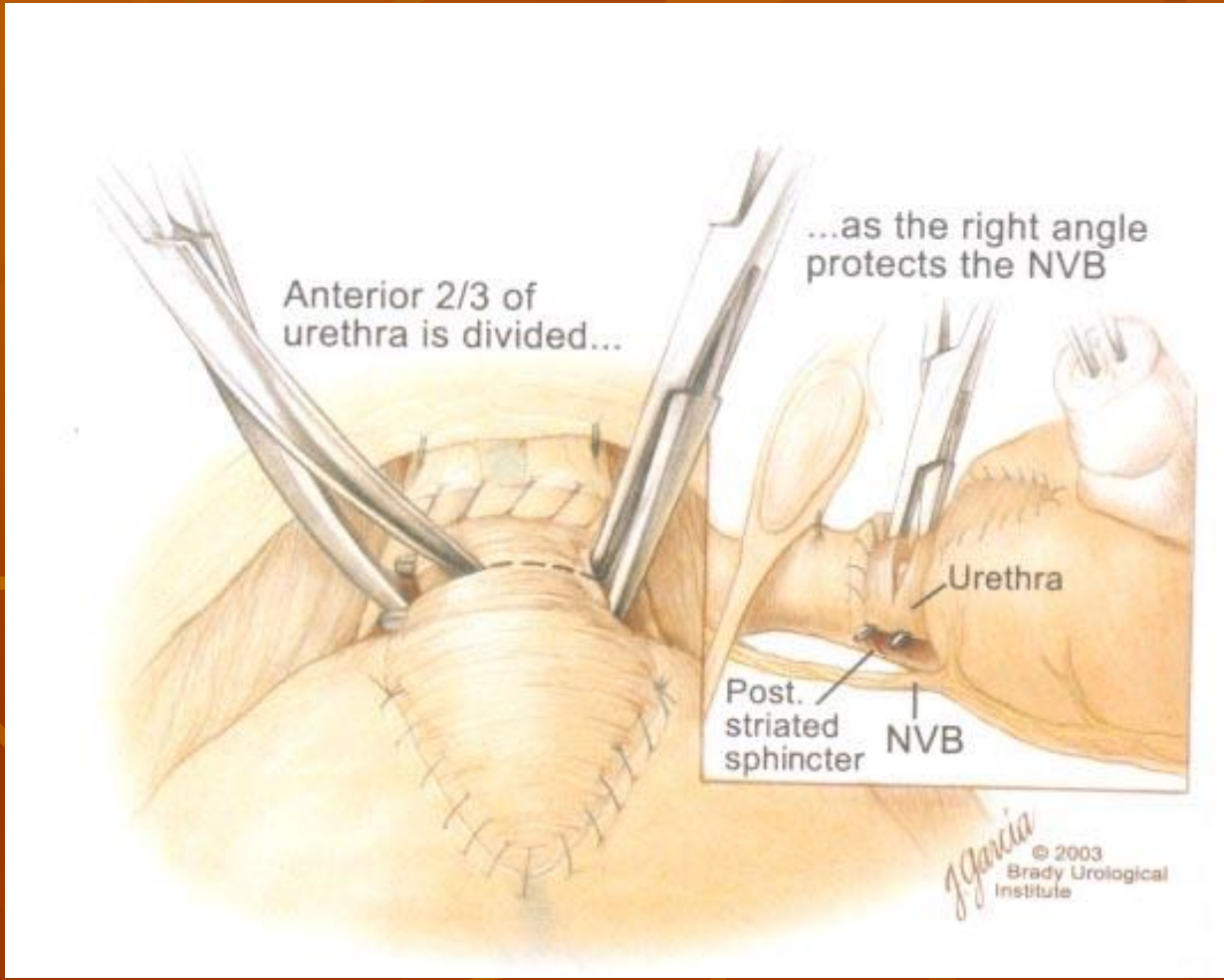
12


Oversewing of striated urethral sphincter and dorsal vein
J. Garcia
© 2003 Brady Urological Institute

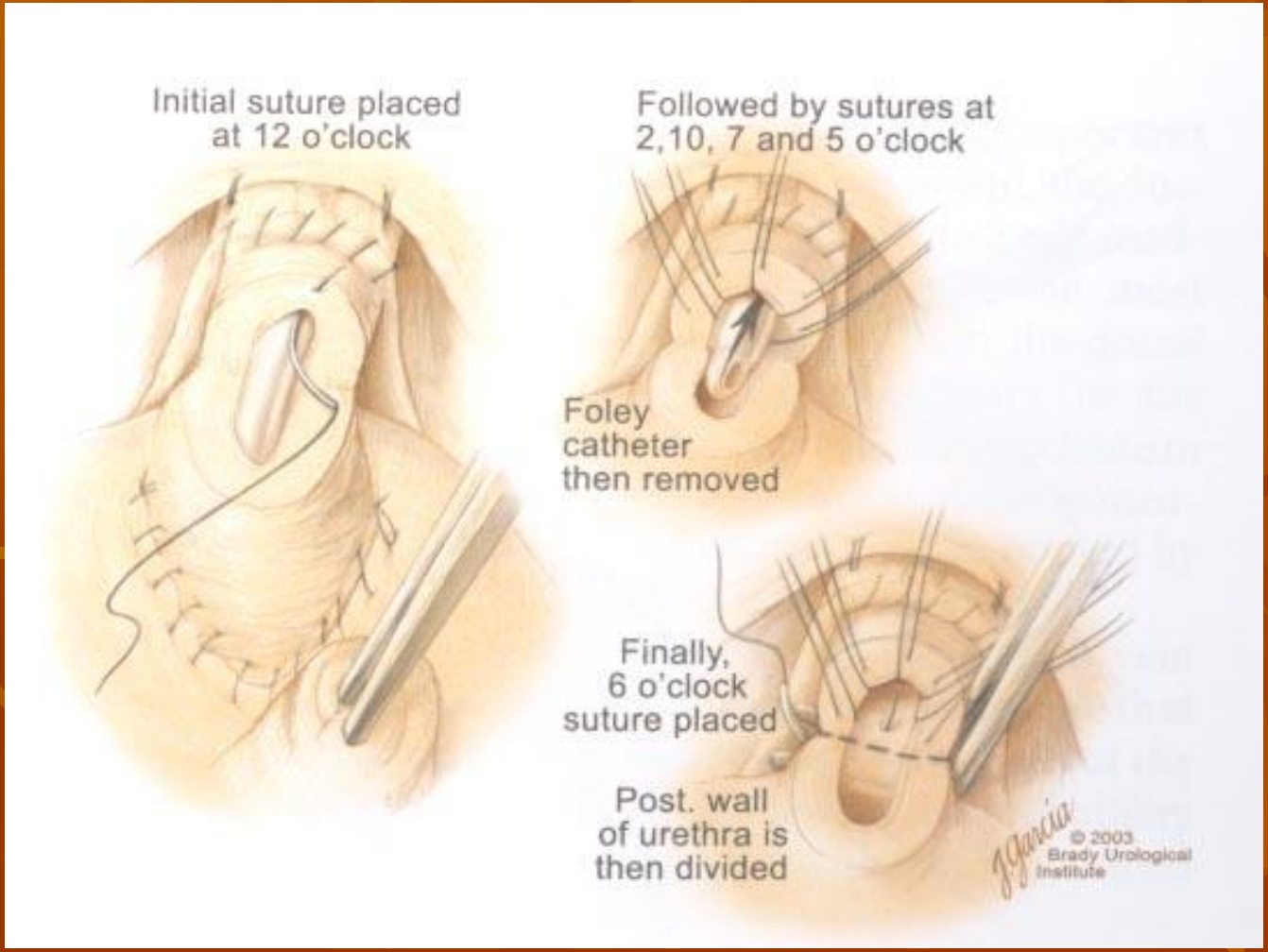
13


Oversewing
of proximal
dorsal vein
J.Garcia
© 2003
Brady Urological
Institute

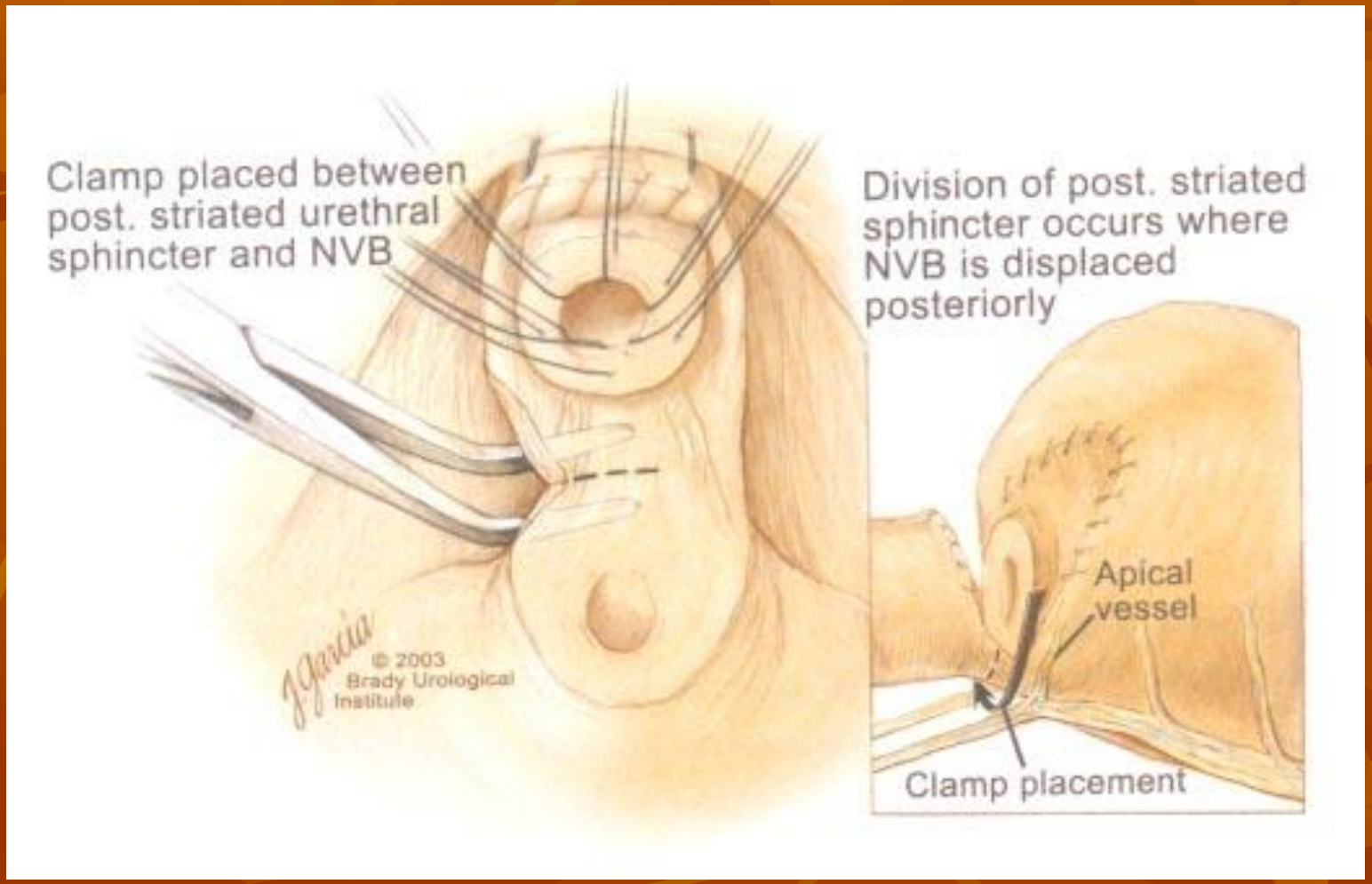
14


Anterior 2/3 of
urethra is divided...
...as the right angle
protects the NVB
Urethra
Post.
striated
sphincter
NVB
© 2003
Brady Urological
Institute

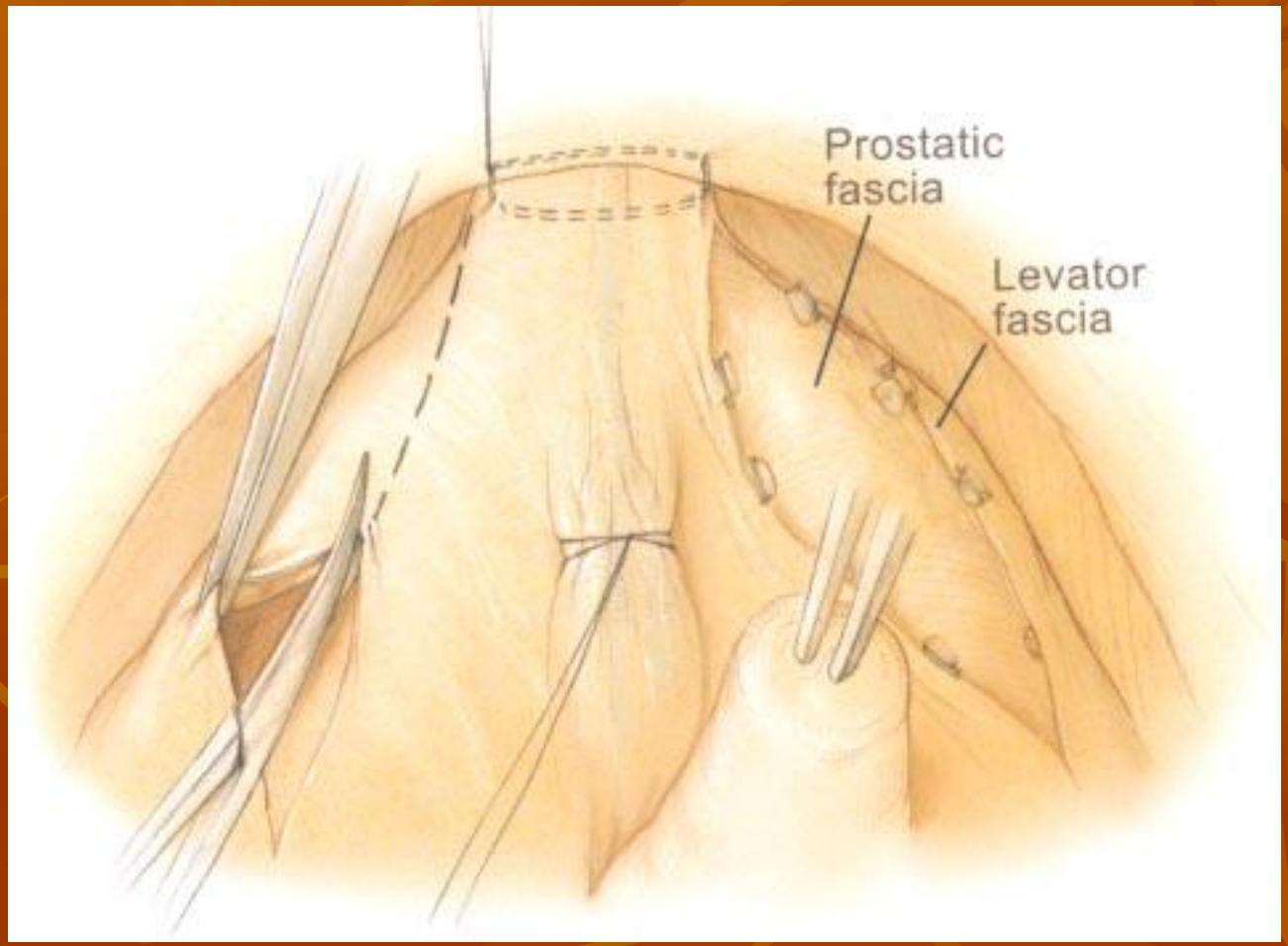
15


Initial suture placed at 12 o'clock
Followed by sutures at 2,10, 7 and 5 o'clock
Foley catheter then removed
Finally, 6 o'clock suture placed
Post. wall of urethra is then divided
© 2003 Brady Urological Institute

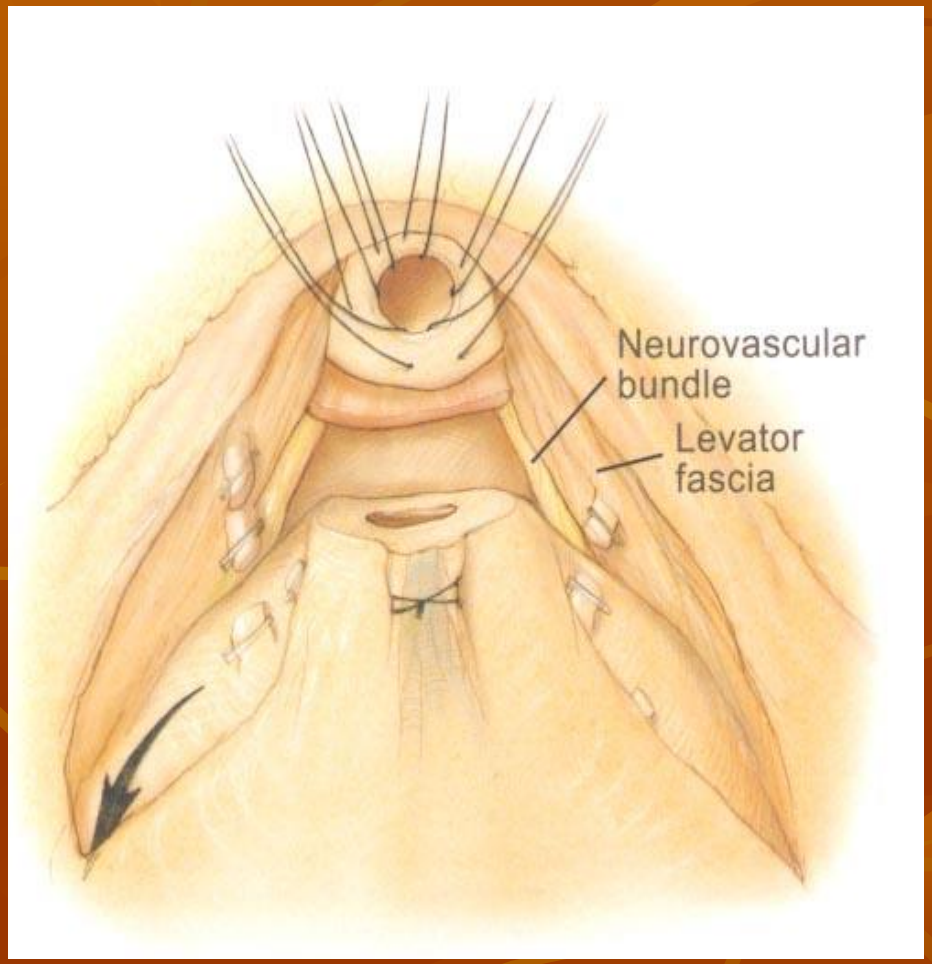
16


Clamp placed between post. striated urethral sphincter and NVB
Division of post. striated sphincter occurs where NVB is displaced posteriorly
Apical vessel
Clamp placement
© 2003 Brady Urological Institute

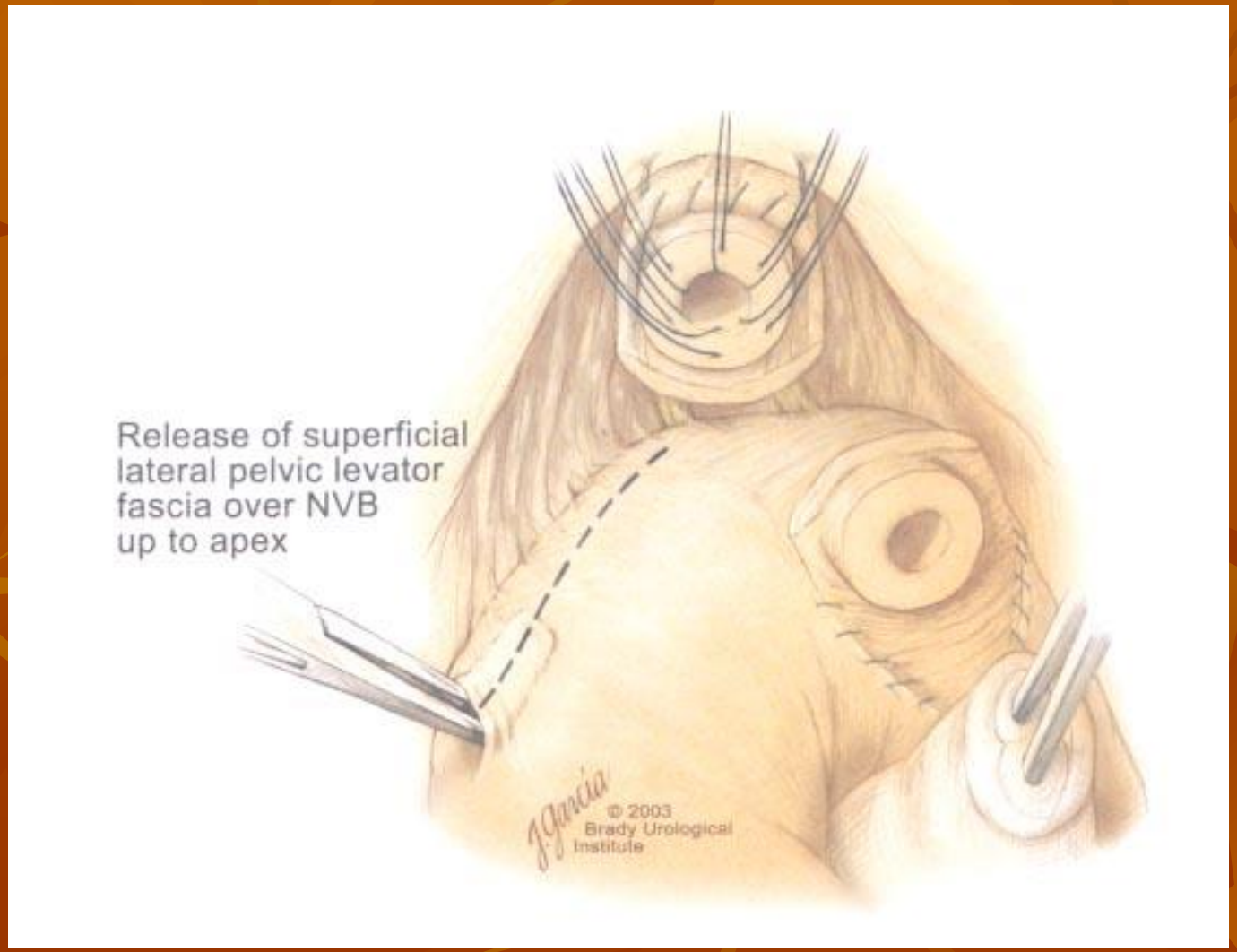
17



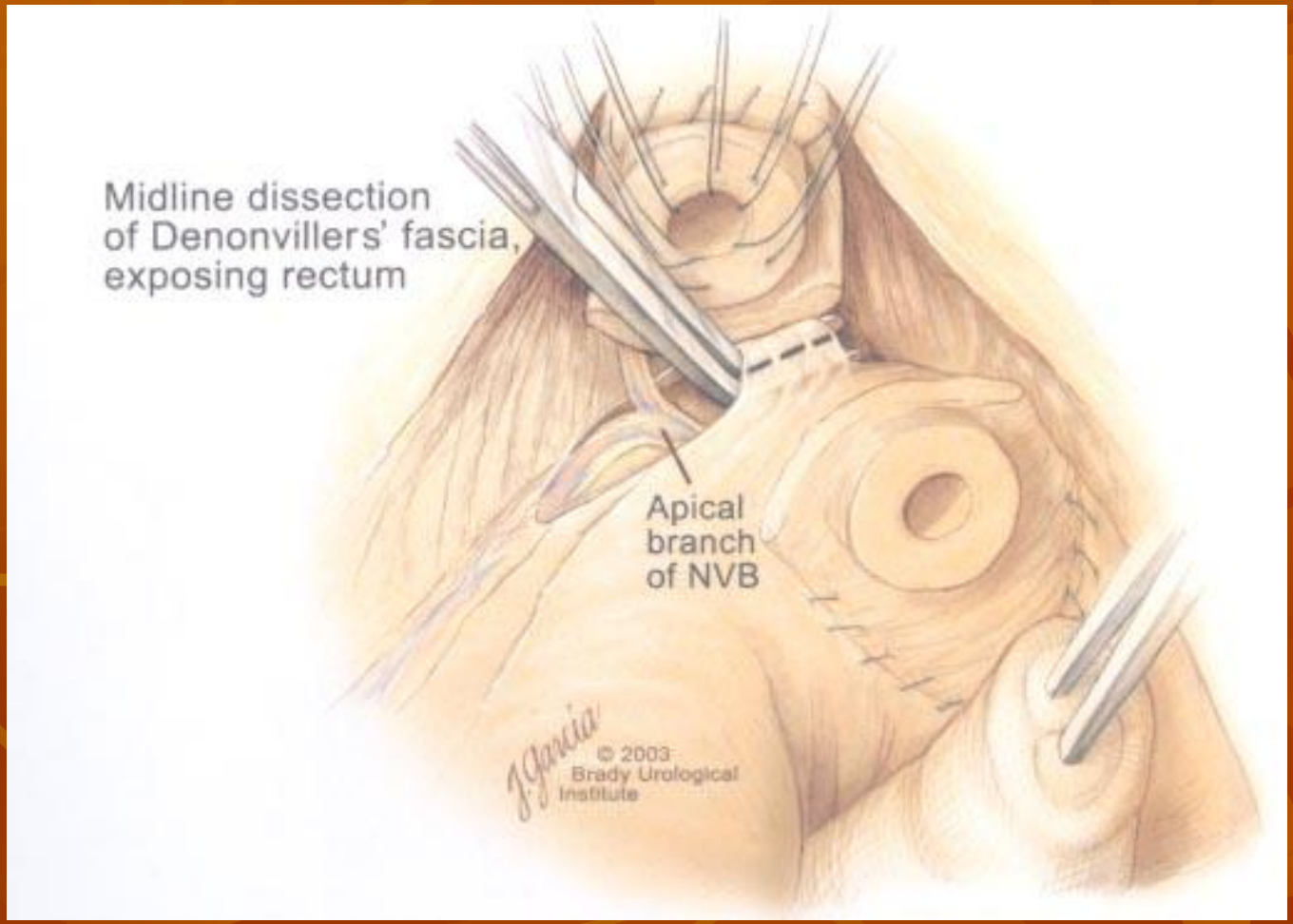
18



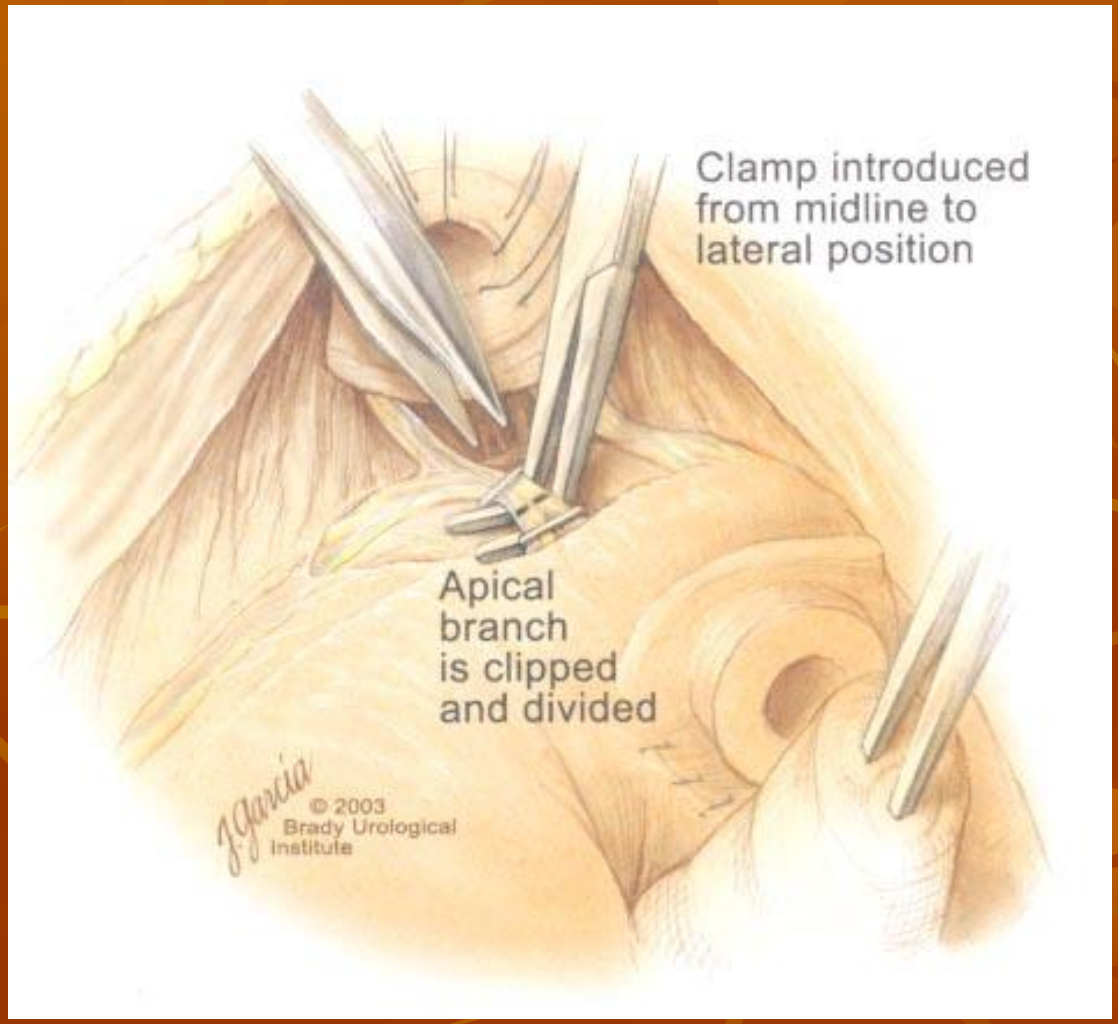
19


Release of superficial
lateral pelvic levator
fascia over NVB
up to apex
© 2003
Brady Urological
Institute

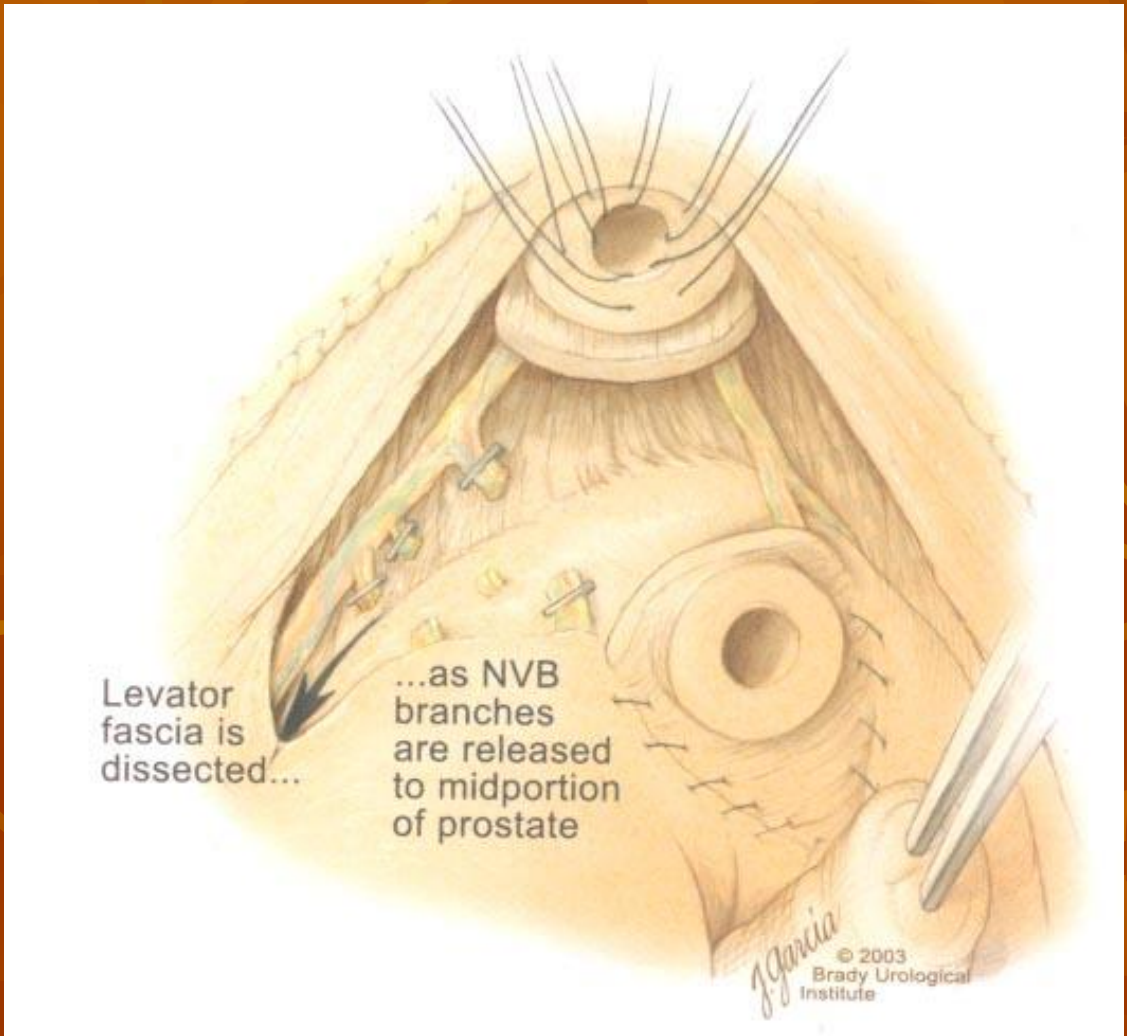
20


Midline dissection
of Denonvillers' fascia,
exposing rectum
Apical
branch
of NVB
J. Garcia
© 2003
Brady Urological
Institute

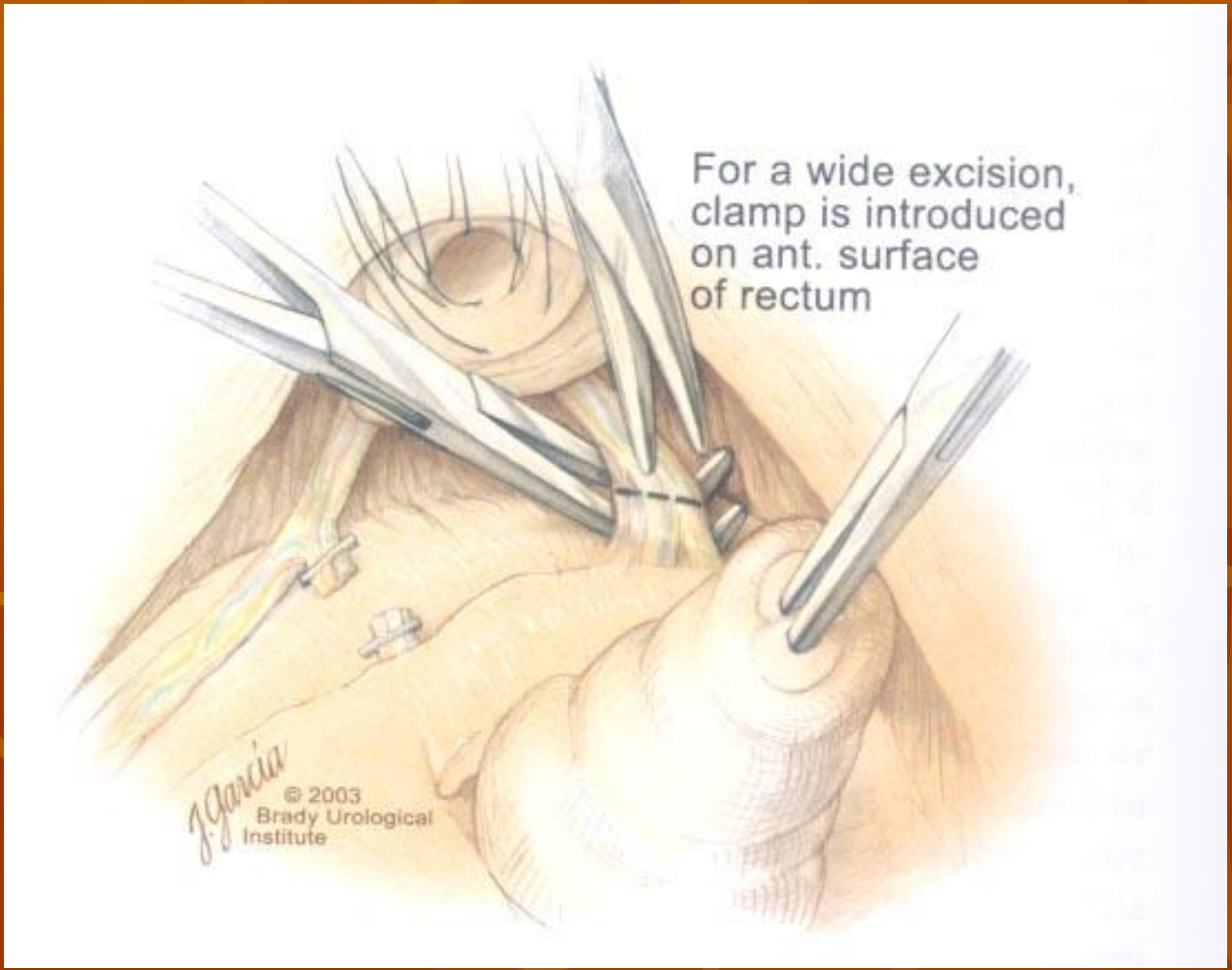
21


Clamp introduced from midline to lateral position
Apical branch is clipped and divided
J.Garcia
© 2003 Brady Urological Institute

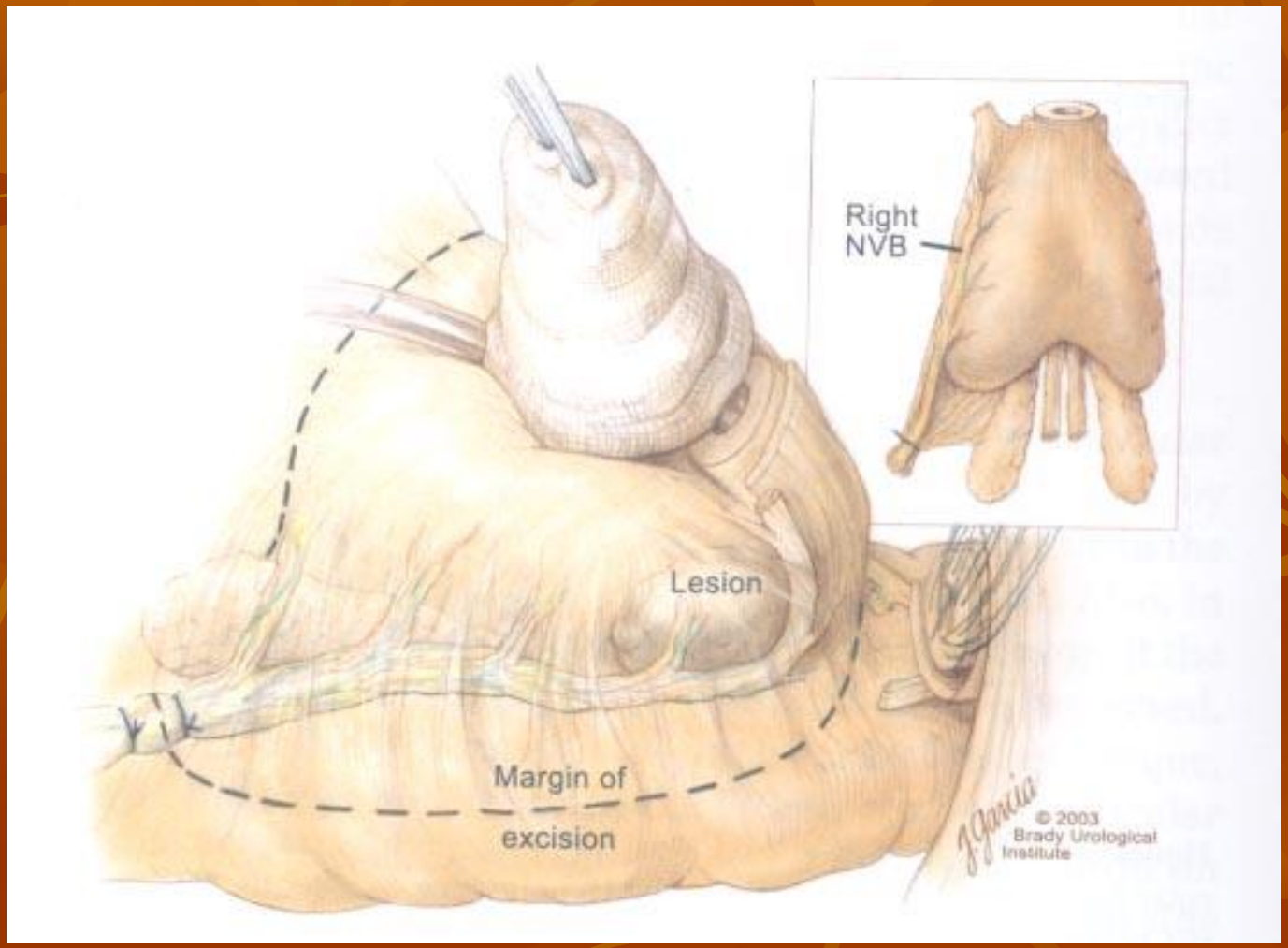
22


Levator fascia is dissected...
...as NVB branches are released to midportion of prostate
© 2003 Brady Urological Institute

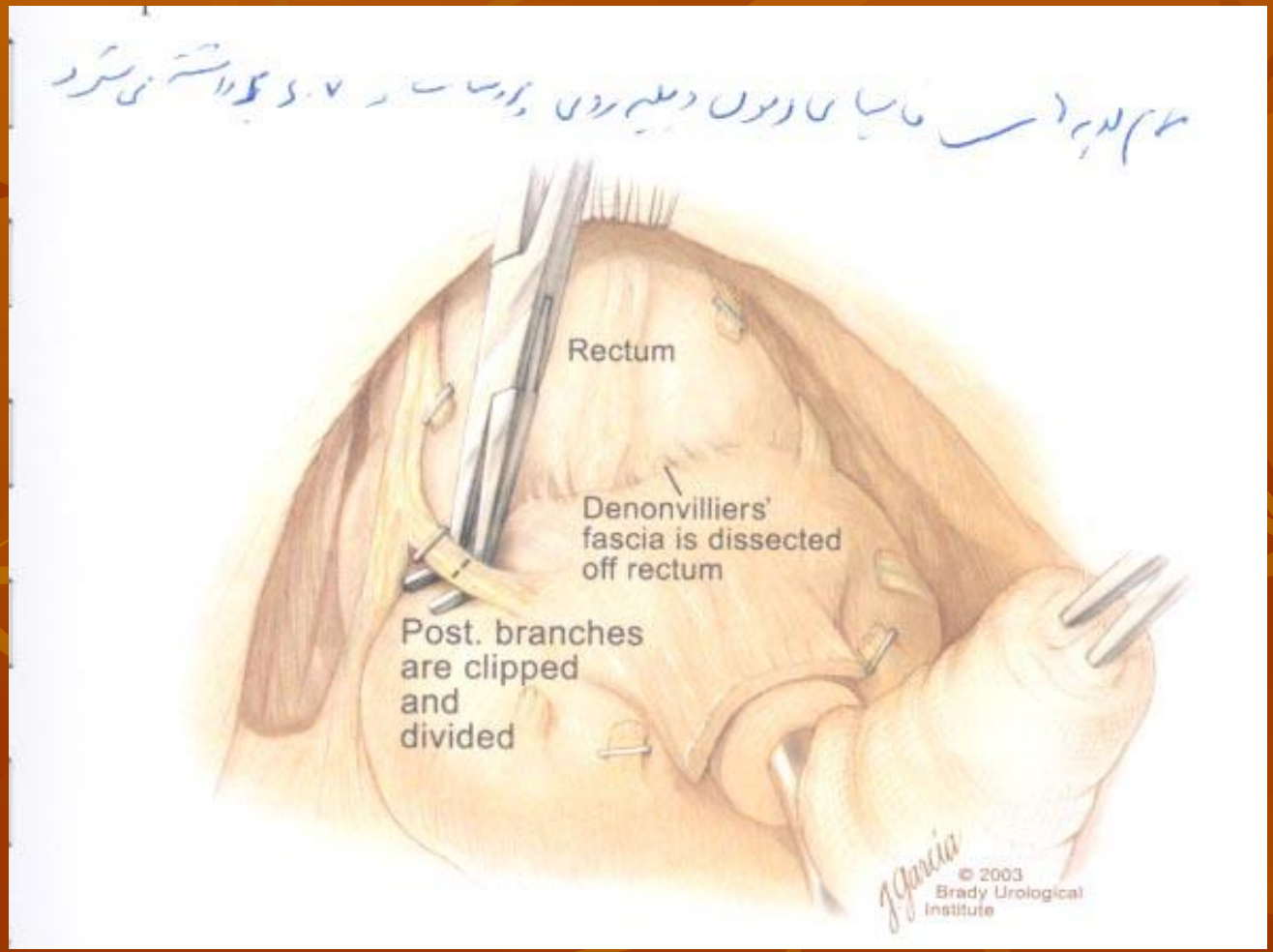
23


For a wide excision, clamp is introduced on ant. surface of rectum
J.García
© 2003
Brady Urological Institute

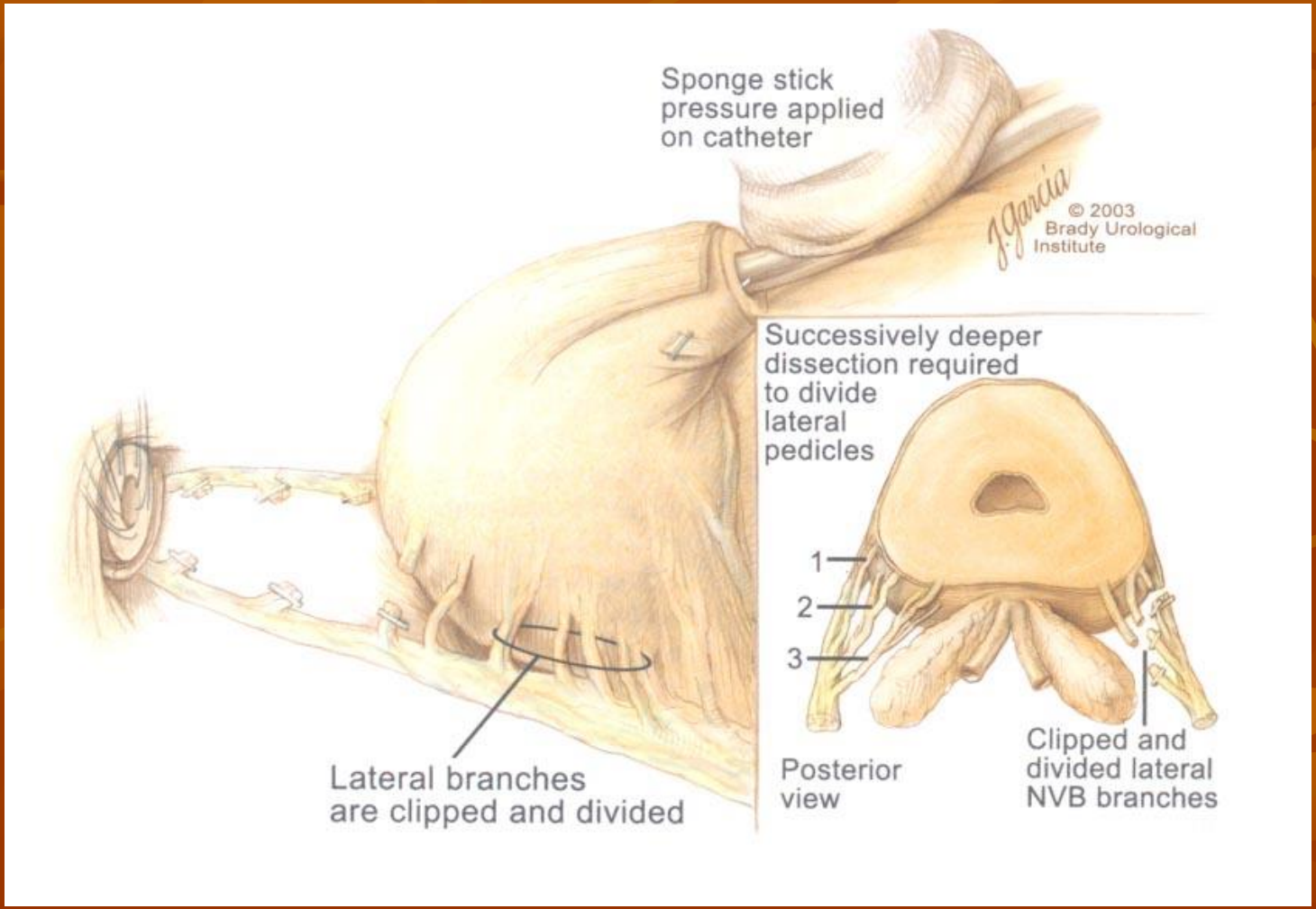
24


Right
NVB
Lesion
Margin of
excision
© 2003
Brady Urological
Institute

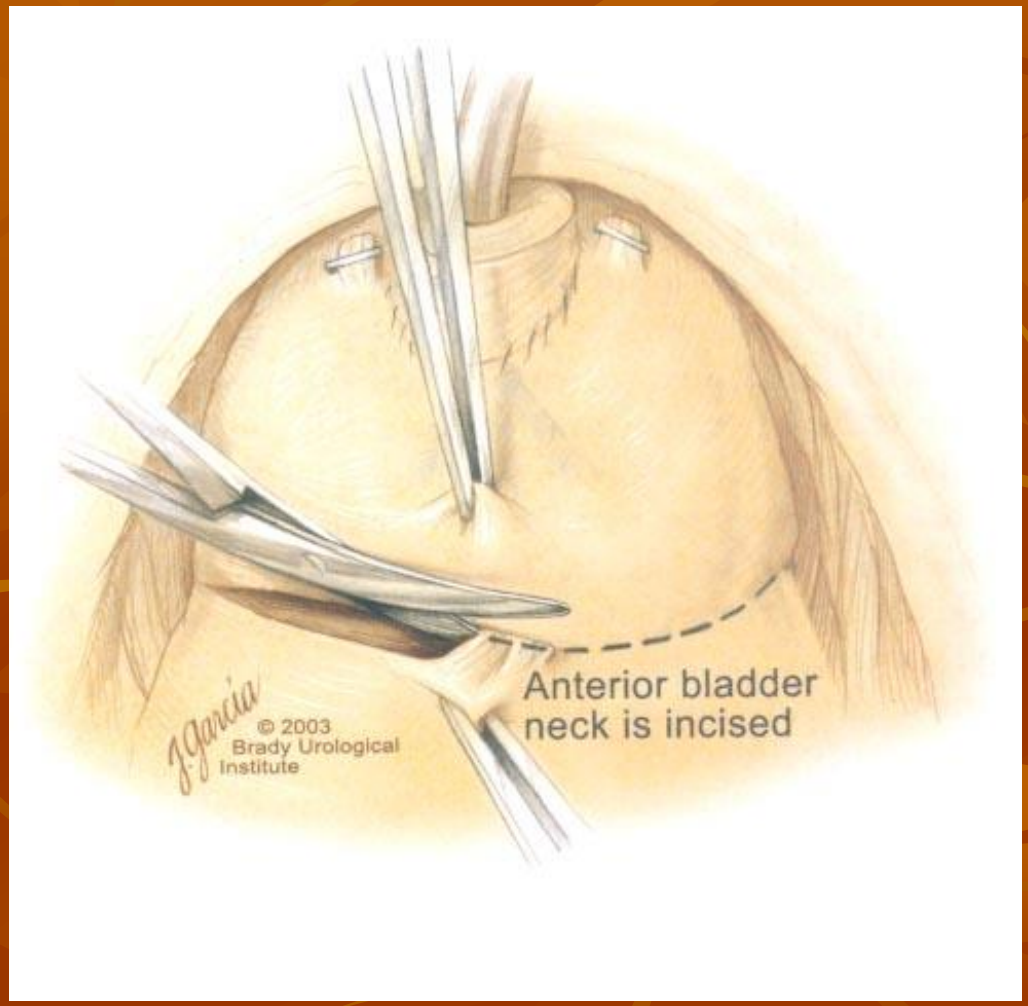
25


Rectum
Denonvilliers' fascia is dissected off rectum
Post. branches are clipped and divided
© 2003 Brady Urological Institute

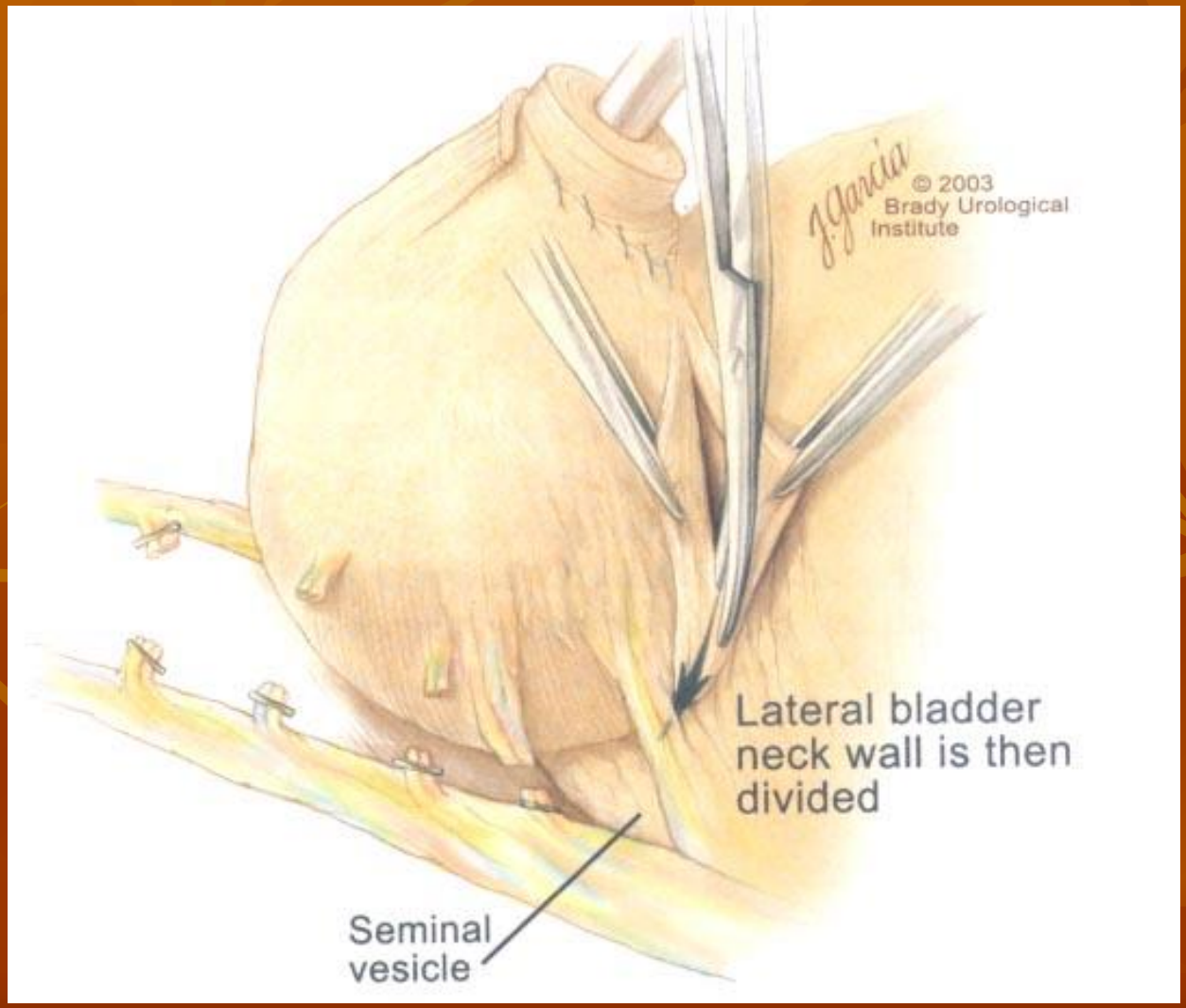
26


Sponge stick pressure applied on catheter
J.Garcia
© 2003 Brady Urological Institute
Successively deeper dissection required to divide lateral pedicles
1
2
3
Lateral branches are clipped and divided
Posterior view
Clipped and divided lateral NVB branches

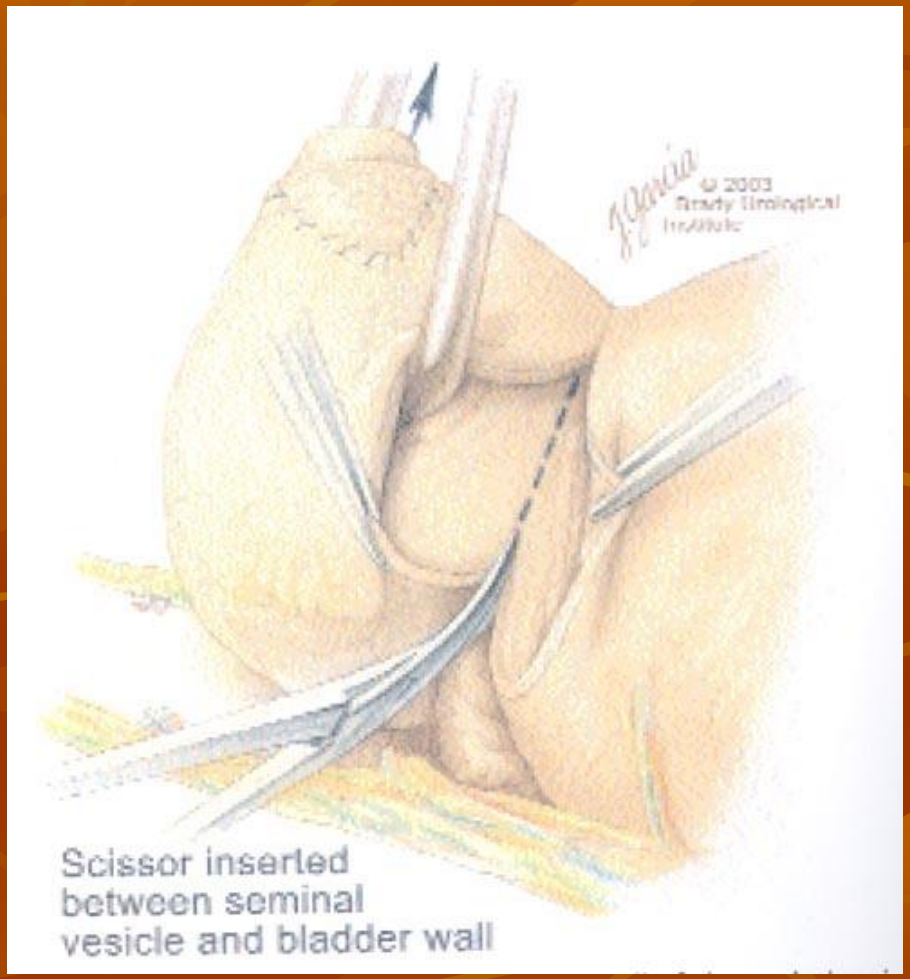
27


Anterior bladder
neck is incised
J.Garcia
© 2003
Brady Urological
Institute

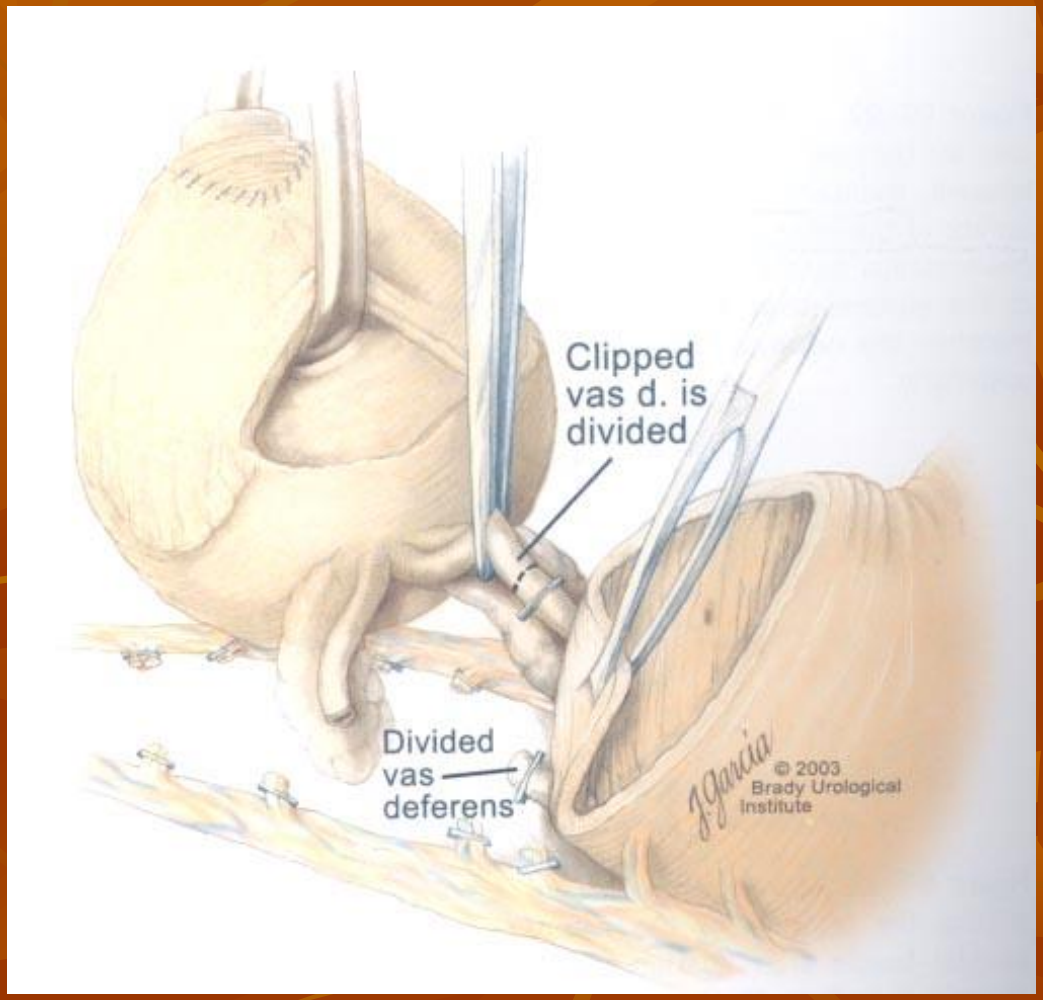
28


J.Garcia
© 2003
Brady Urological
Institute
Lateral bladder
neck wall is then
divided
Seminal
vesicle

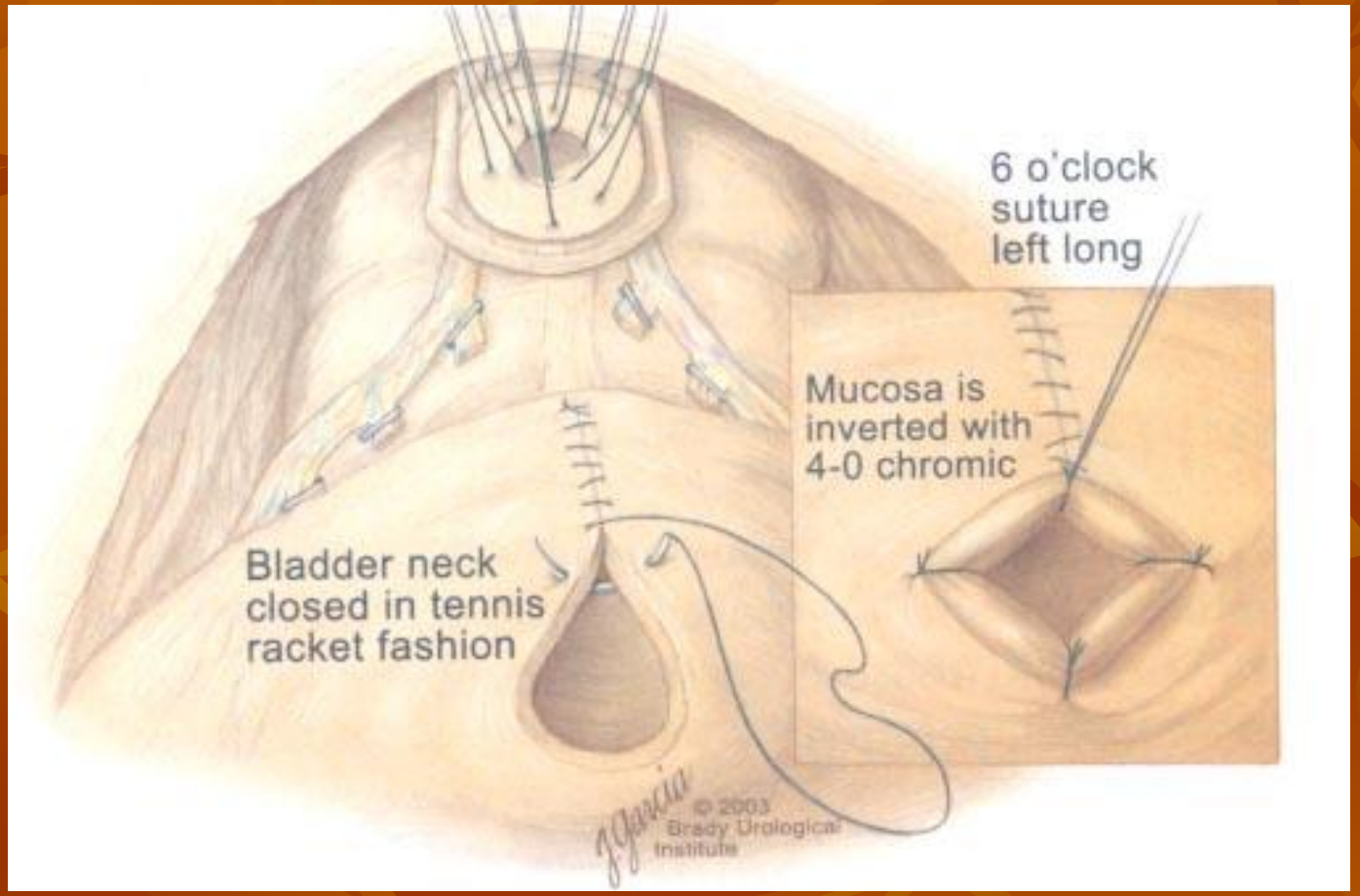
29


Scissor inserted
between seminal
vesicle and bladder wall

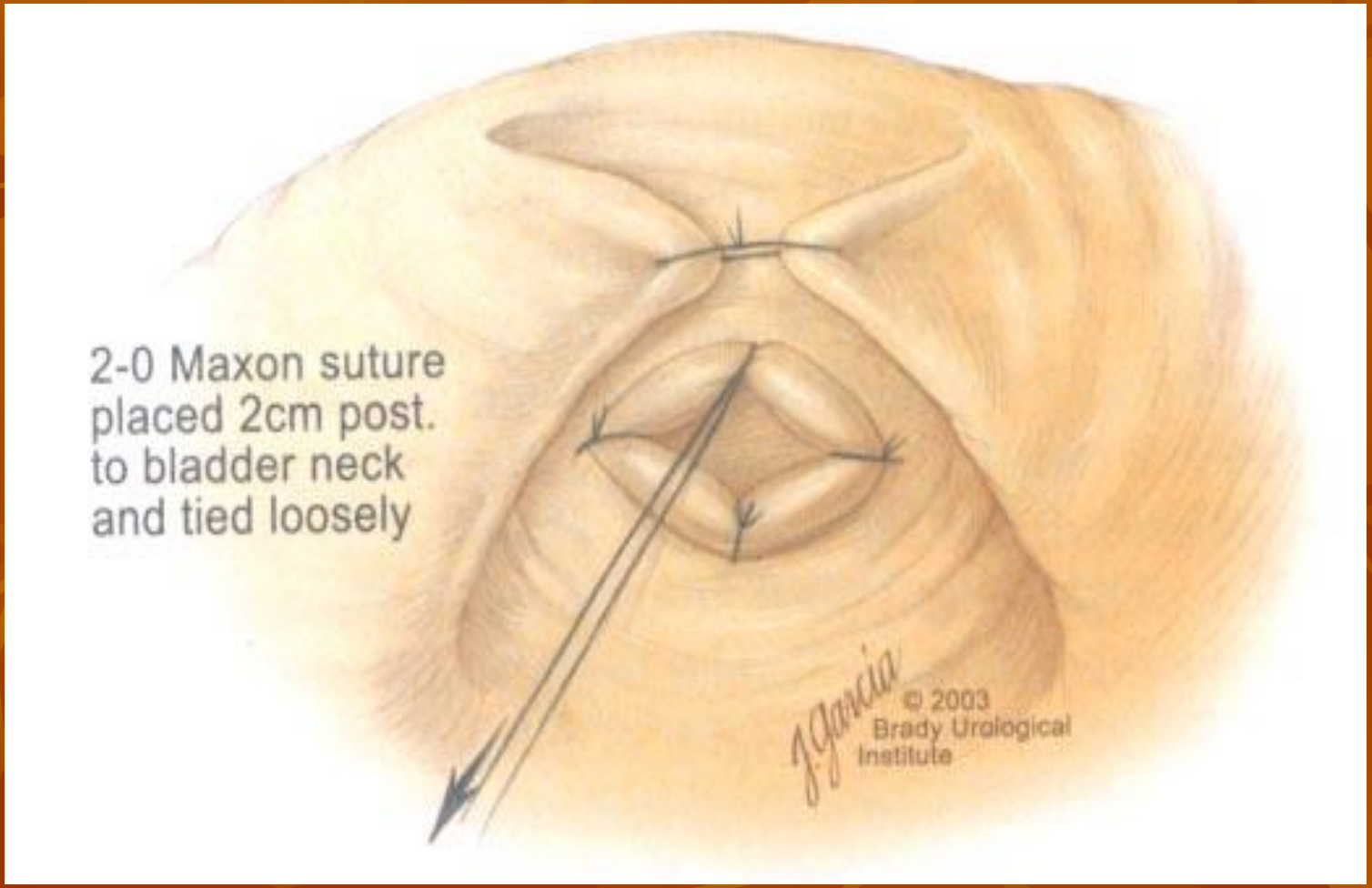
30


Clipped
vas d. is
divided
Divided
vas
deferens
© 2003
Brady Urological
Institute

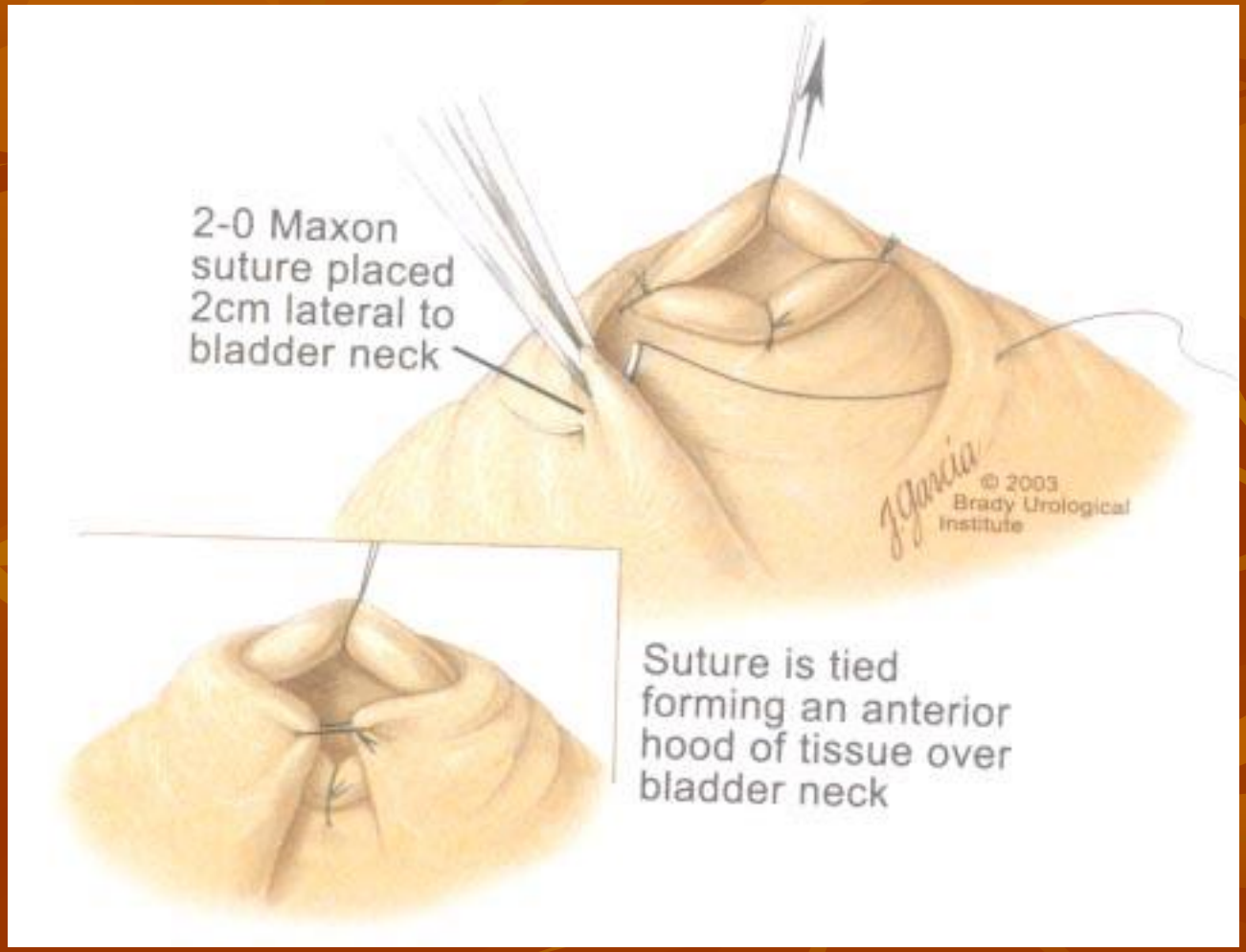
31


6 o'clock
suture
left long
Mucosa is
inverted with
4-0 chromic
Bladder neck
closed in tennis
racket fashion
© 2003
Brady Urological
Institute

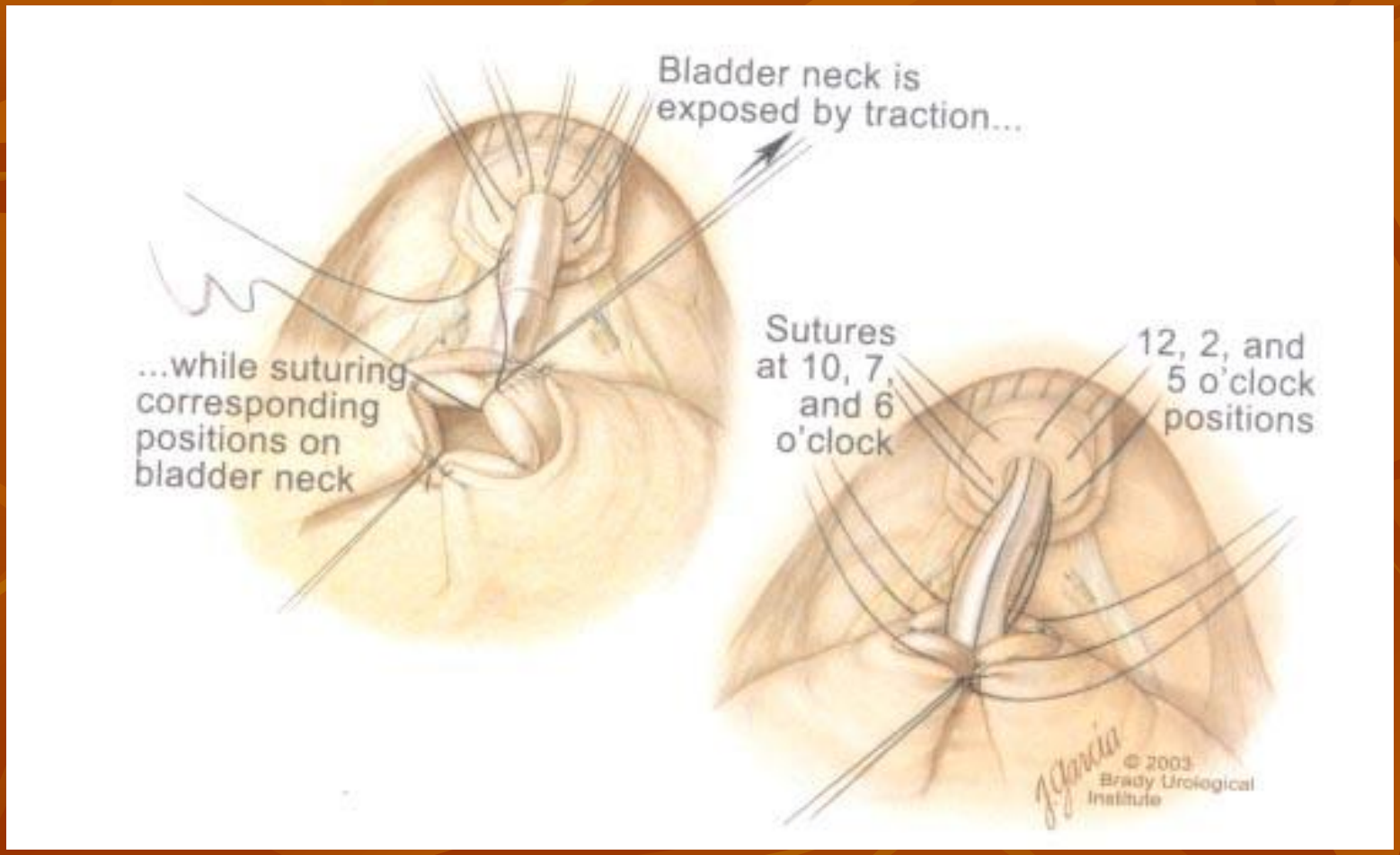
32


2-0 Maxon suture
placed 2cm post.
to bladder neck
and tied loosely
J.Garcia
© 2003
Brady Urological
Institute

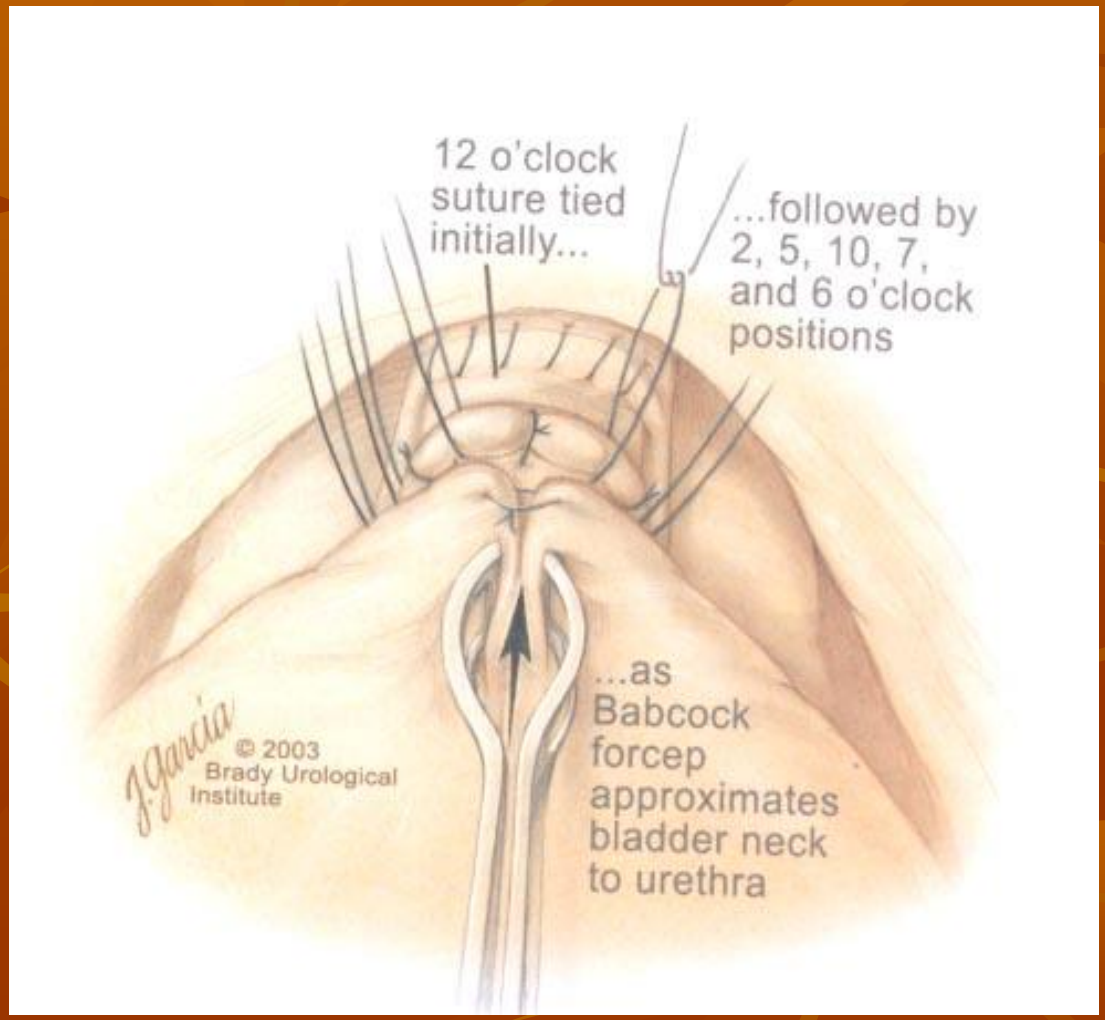
33


2-0 Maxon suture placed 2cm lateral to bladder neck
© 2003 Brady Urological Institute
Suture is tied forming an anterior hood of tissue over bladder neck

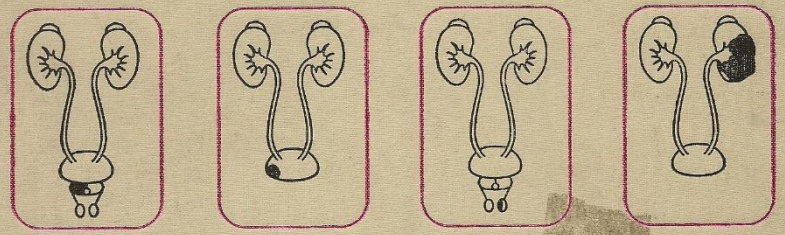
34


Bladder neck is exposed by traction...
...while suturing corresponding positions on bladder neck
Sutures at 10, 7, and 6 o'clock
12, 2, and 5 o'clock positions
© 2003 Brady Urological Institute

35


12 o'clock suture tied initially...
...followed by 2, 5, 10, 7, and 6 o'clock positions
...as Babcock forcep approximates bladder neck to urethra
J. Garcia
© 2003 Brady Urological Institute

COMPREHENSIVE TEXTBOOK OF GENITOURINARY ONCOLOGY

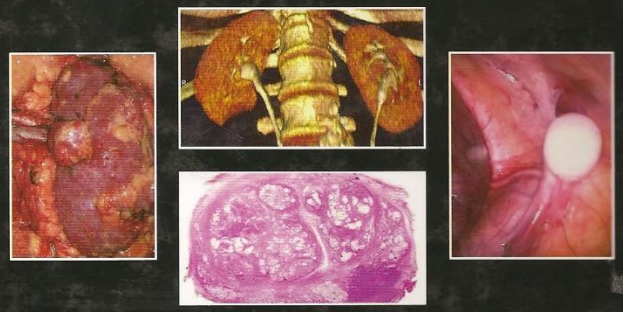


Editors

Nicholas J. Vogelzang
Peter T. Scardino
William U. Shipley
Donald S. Coffey

Campbell-Walsh UROLOGY

NINTH EDITION



INTERNATIONAL EDITION

WEIN • KAVOUSSI • NOVICK
PARTIN • PETERS

ترجمه کامل

اورولوژی عمومی اسمیت

ترجمه :

دکتر محمدرضا نوروزی

متخصص اورولوژی

عضو هیئت علمی دانشگاه علوم پزشکی تهران

دکتر کیوان رادخواه

متخصص اورولوژی

دکتر کمال الدین حسن زاده

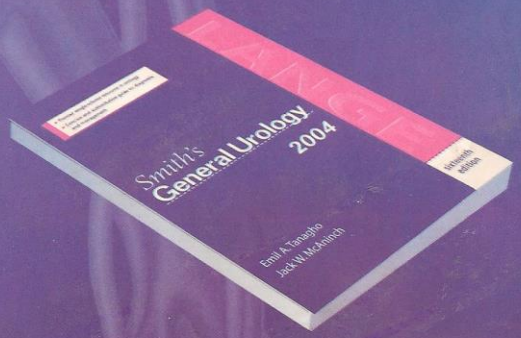
متخصص اورولوژی

عضو هیئت علمی دانشگاه علوم پزشکی تبریز

دکتر حسن جمشیدیان

متخصص اورولوژی

عضو هیئت علمی دانشگاه علوم پزشکی تهران

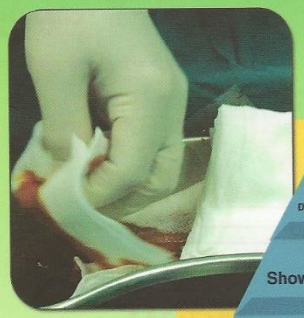


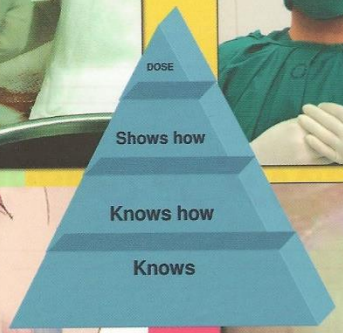
ویرایش شانزدهم

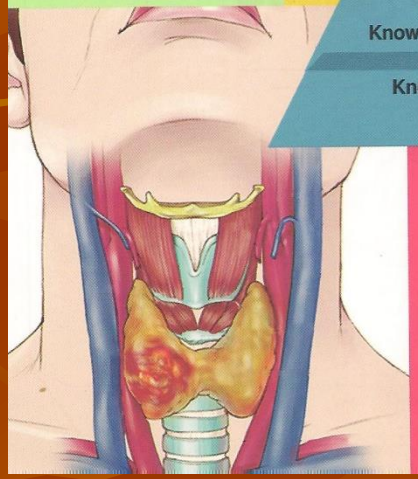
۲۰۰۴

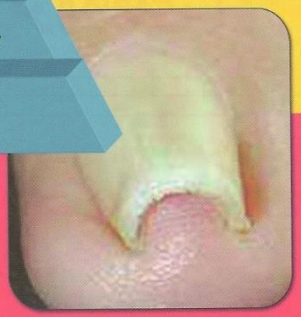
آموزش
مهارت‌های جراحی و اورولوژی
با رویکرد مبتنی بر صلاحیت

- آشنایی با مبانی آموزش مبتنی بر صلاحیت
- راهنمای آموزش و یادگیری مهارت‌های جراحی در حد تسلط

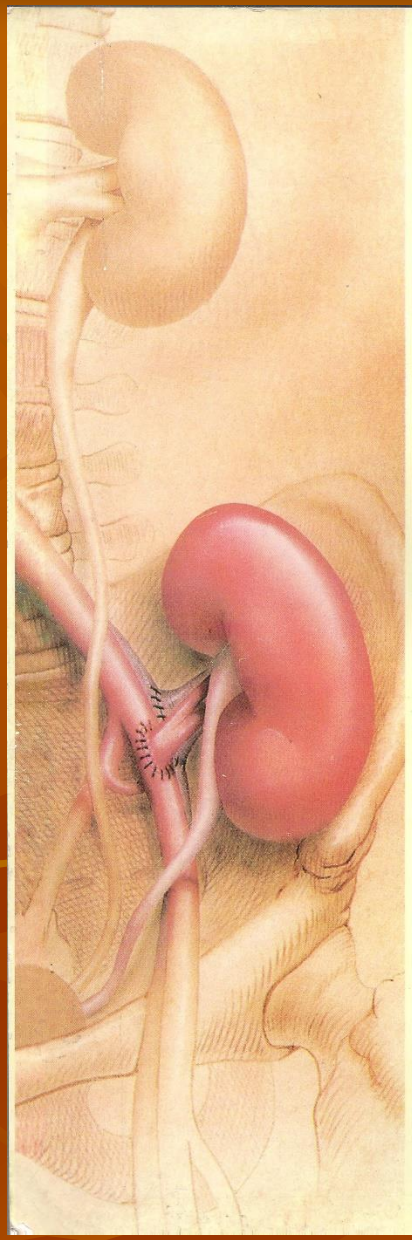








تهیه شده در:
معاونت آموزشی
مرکز مطالعات و توسعه آموزش علوم پزشکی
واحد مهارت‌های بالینی



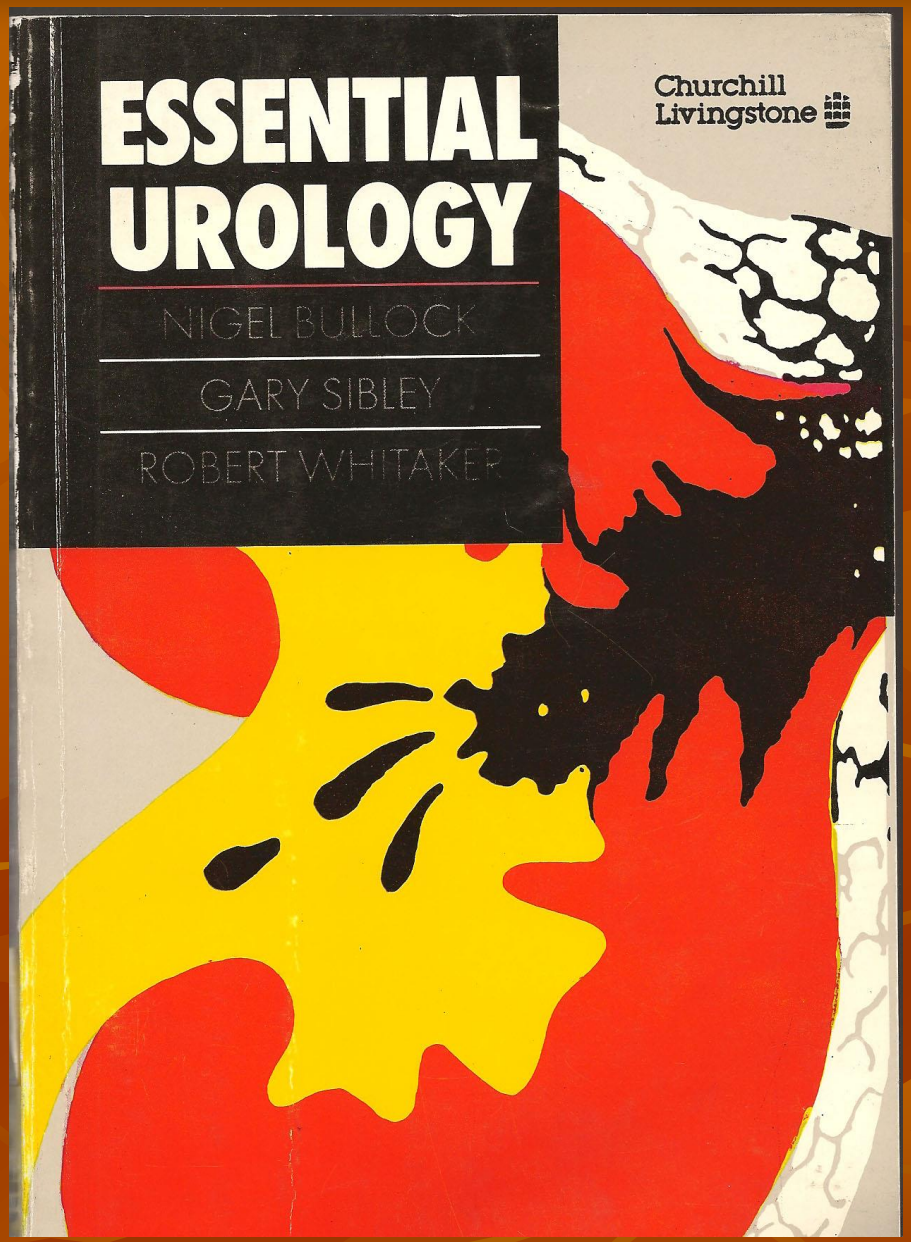
مفاهیم نهفته
در مبحث اورلوژی

ترجمه :

۱ - دکتر افشار زمردی استادیار اورلوژی

۲ - دکتر ابوالفضل بهلولی دانشیار اورلوژی

۳ - دکتر کمال حسن زاده استادیار اورلوژی


ESSENTIAL
UROLOGY
NIGEL BULLOCK
GARY SIBLEY
ROBERT WHITAKER
Churchill
Livingstone

Urology

for

PRIMERY CARE PHYSICANS

Nsey
Weinman
Lamm

Translated by :

Bohluli A. M.D
Hajebrahimi S. M.D
Urology Department of
Tabriz University of Medical Sciences