Foggia, 28-29 settembre 2022
Policlinico Riuniti di Foggia

I trattamenti mini-invasivi endoscopici dell'ipertrofia prostatica

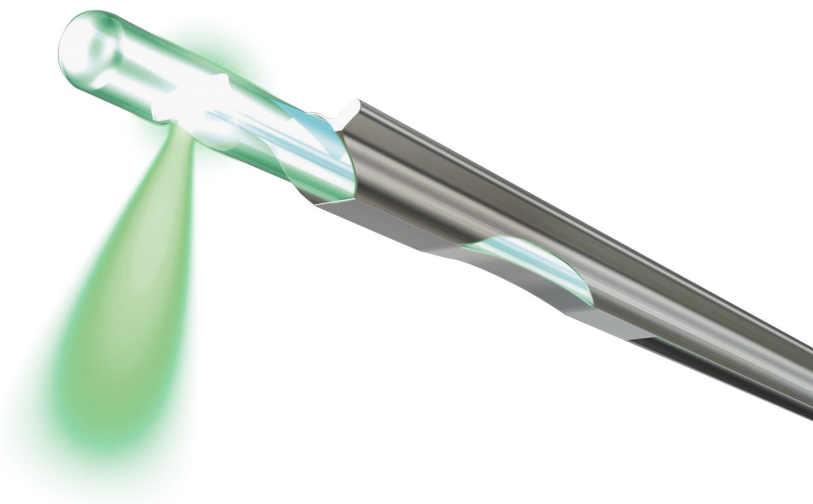
Green Light Laser

Impiego nel trattamento endoscopico dell'iperplasia prostatica e tecniche chirurgiche: PVP, PVP anatomica e GreenLEP

Dr. Francesco Varvello

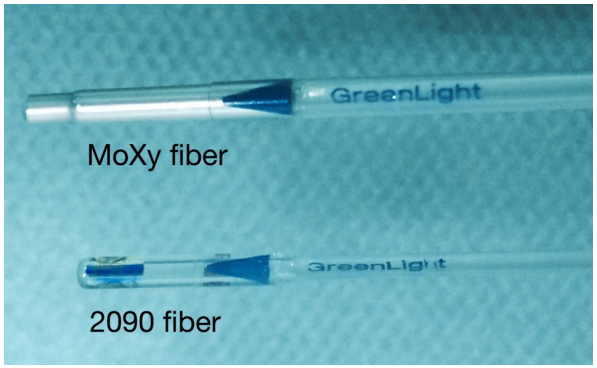
Ospedale Michele e Pietro Ferrero
Verduno (CN)

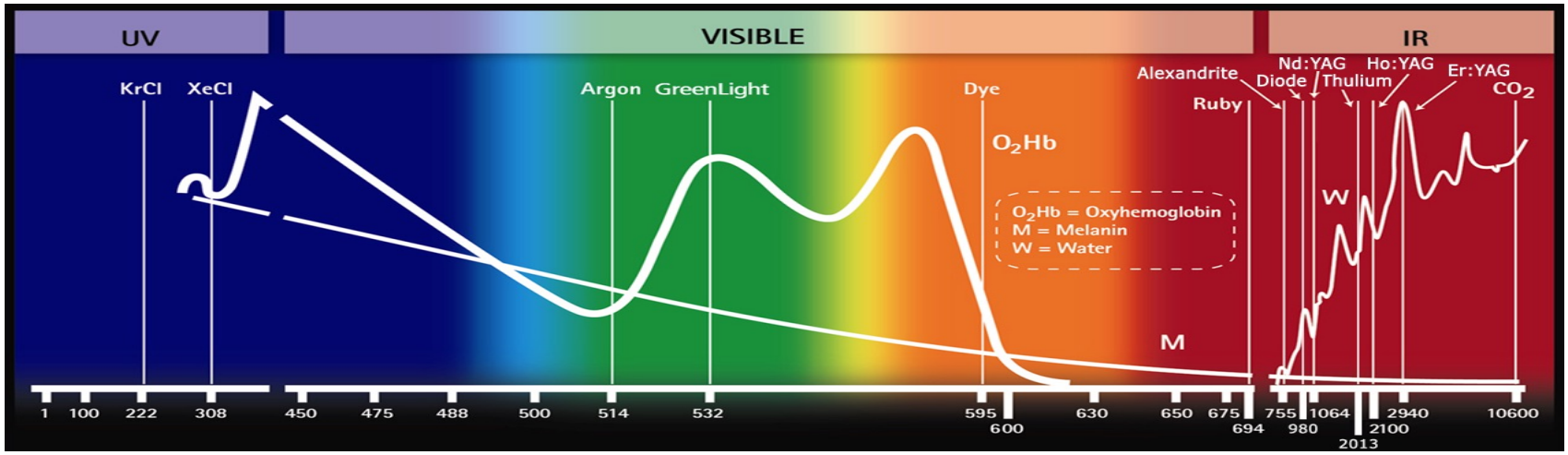
GreenLight™
Laser Therapy



CARATTERISTICHE TECNICHE

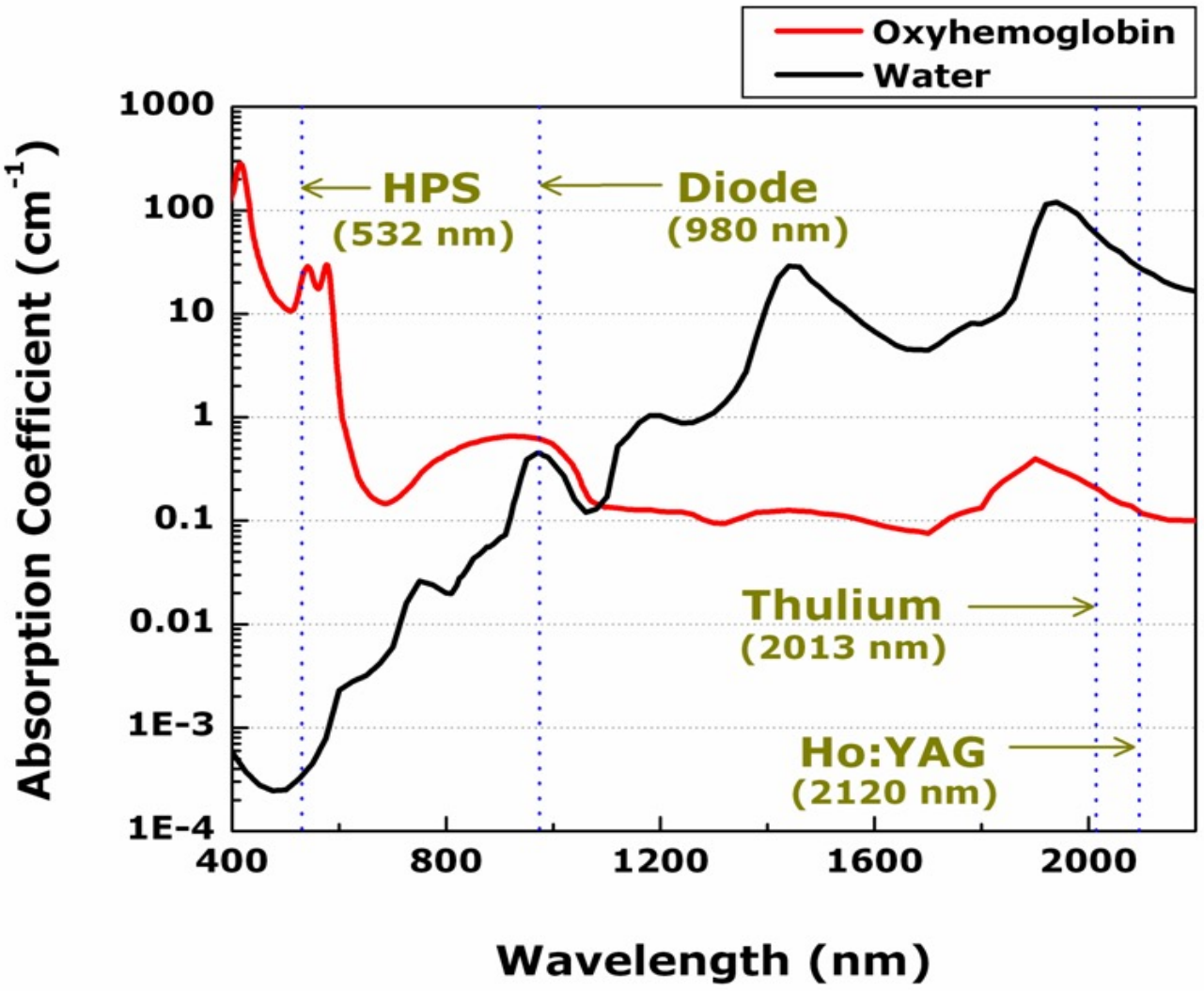
- Litio triborato
- Lunghezza d'onda 532 nm
- Emissione quasi-continua
- Potenza max 120W – 180W
- Fibre side-fire 70°





	Green	Diodi	ndYAG	Tullio	Olmio
Lunghezza d'onda	**532 nm**	**980 nm**	**1064 nm**	**2010 nm**	**2120 nm**
Forma d'onda	quasi-CW	CW	CW	CW	pulsed
Profondità di penetrazione nel tessuto	0.8 mm	5 mm	10 mm	0.2 mm	0.4 mm

COEFFICIENTE DI ASSORBIMENTO

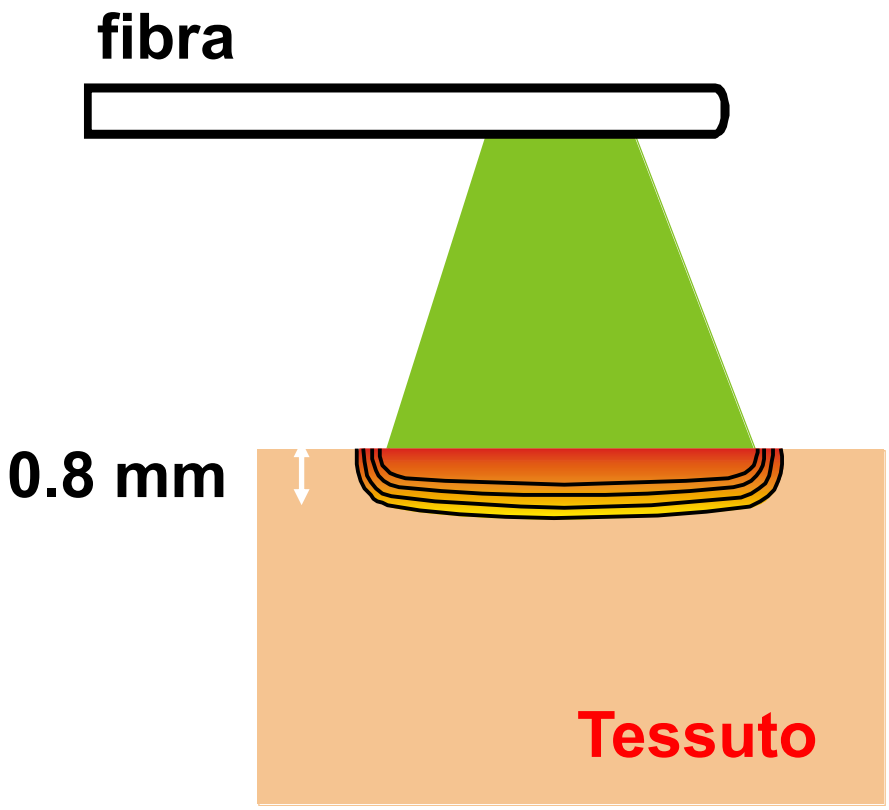


EFFETTO FOTOTERMICO

Energia laser concentrata in un basso volume di tessuto

Veloce riscaldamento

Immediata **VAPORIZZAZIONE** del tessuto



DOSE CHIRURGICA = $\frac{P \quad x \quad t}{}$

P = potenza

t = tempo

- tempo di erogazione laser
- velocità di rotazione della fibra

$$\text{DOSE CHIRURGICA} = \frac{P \times t}{A}$$

A = area

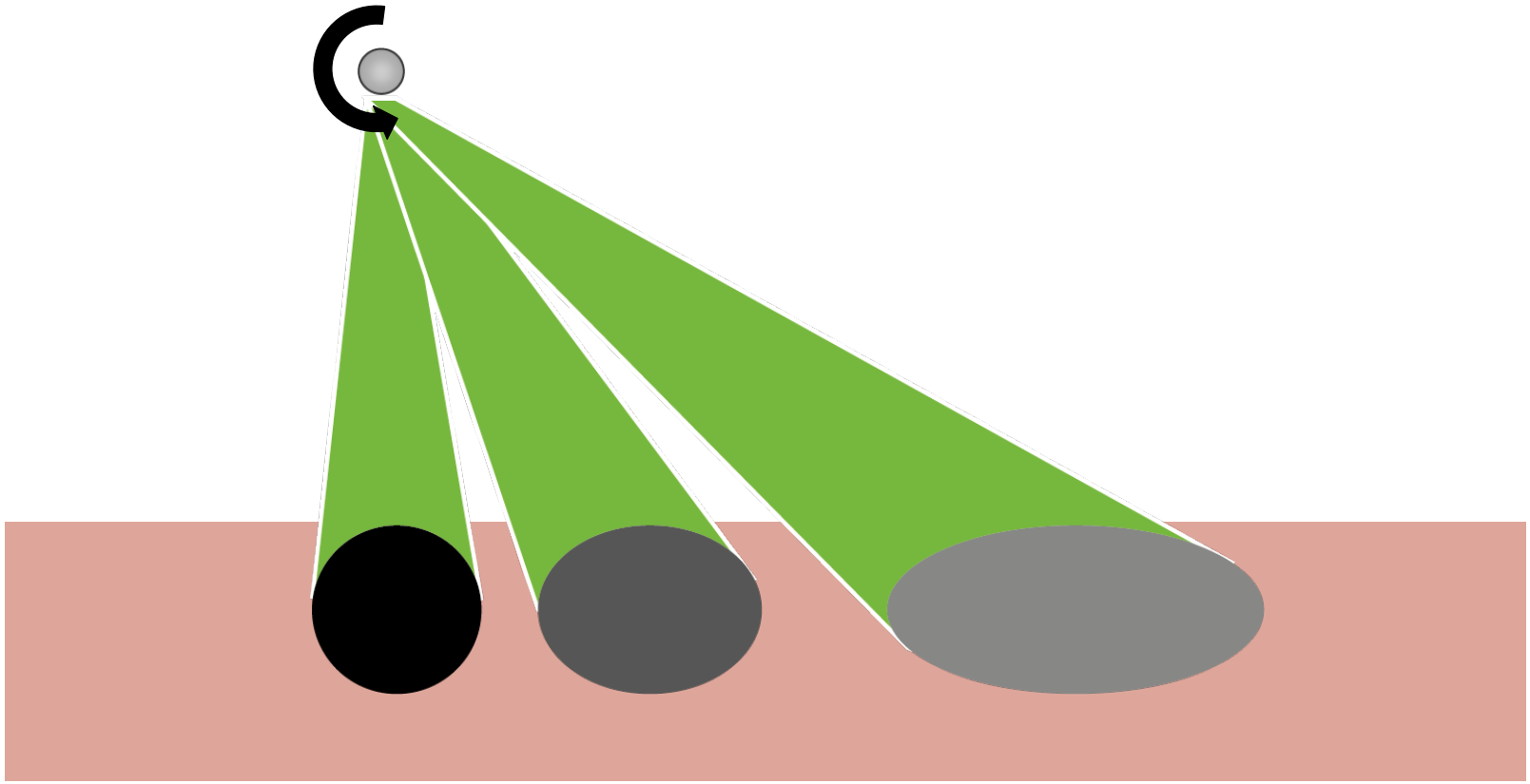
- distanza di lavoro
- perpendicolarità

AREA

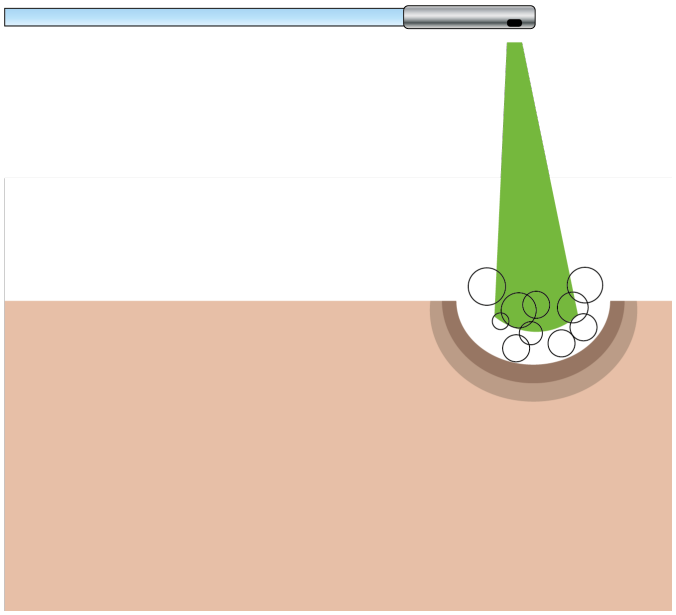
- distanza di lavoro

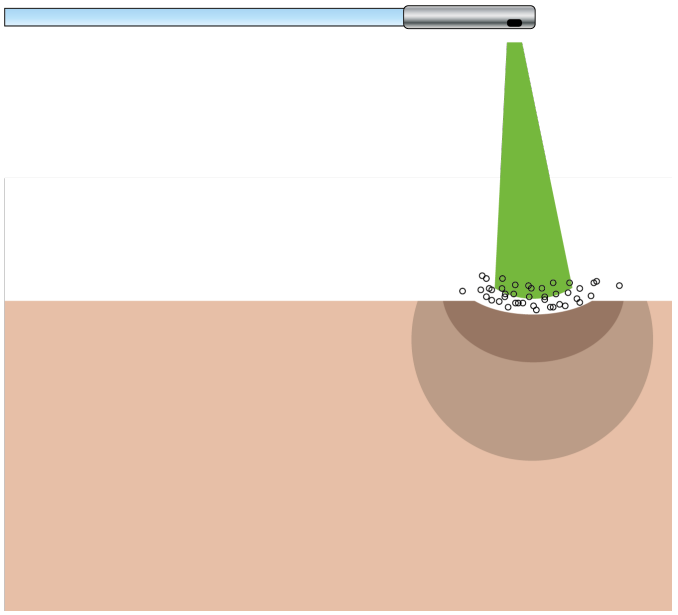
AREA

- perpendicolarità



DOSE CHIRURGICA





EUROPEAN UROLOGY 62 (2012) 315–323

available at www.sciencedirect.com
journal homepage: www.europeanurology.com

European Association of Urology

Review – Benign Prostatic Obstruction

Photoselective Vaporisation of the Prostate Using 80-W and 120-W Laser Versus Transurethral Resection of the Prostate for Benign Prostatic Hyperplasia: A Systematic Review with Meta-Analysis from 2002 to 2012

EUROPEAN UROLOGY 69 (2016) 94–102

available at www.sciencedirect.com
journal homepage: www.europeanurology.com

European Association of Urology

Platinum Priority – Benign Prostatic Obstruction

Editorial by Jean-Nicolas Cornu and Stephan Madersbacher on pp. 103–104 of this issue

A Multicenter Randomized Noninferiority Trial Comparing GreenLight-XPS Laser Vaporization of the Prostate and Transurethral Resection of the Prostate for the Treatment of Benign Prostatic Obstruction: Two-yr Outcomes of the GOLIATH Study

GreenLight™ Laser Therapy

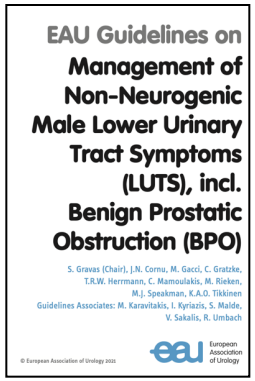
= TURP

- Efficacia
- Complicanze
- Ritrattamenti

> TURP

- Efficacia emostatica
- Deficit coagulazione
- Assistenza post-op
- Cateterizzazione
- Ospedalizzazione

PVP STANDARD



Summary of evidence

LE 1b

Laser vaporisation of the prostate using the 180-W LBO laser (PVP) demonstrated higher intra-operative safety with regard to haemostatic properties when compared to TURP. Peri-operative parameters such as catheterisation time and hospital stay were in favour of PVP, whereas operation time was in favour of TURP. Short- to mid-term results are comparable to TURP.

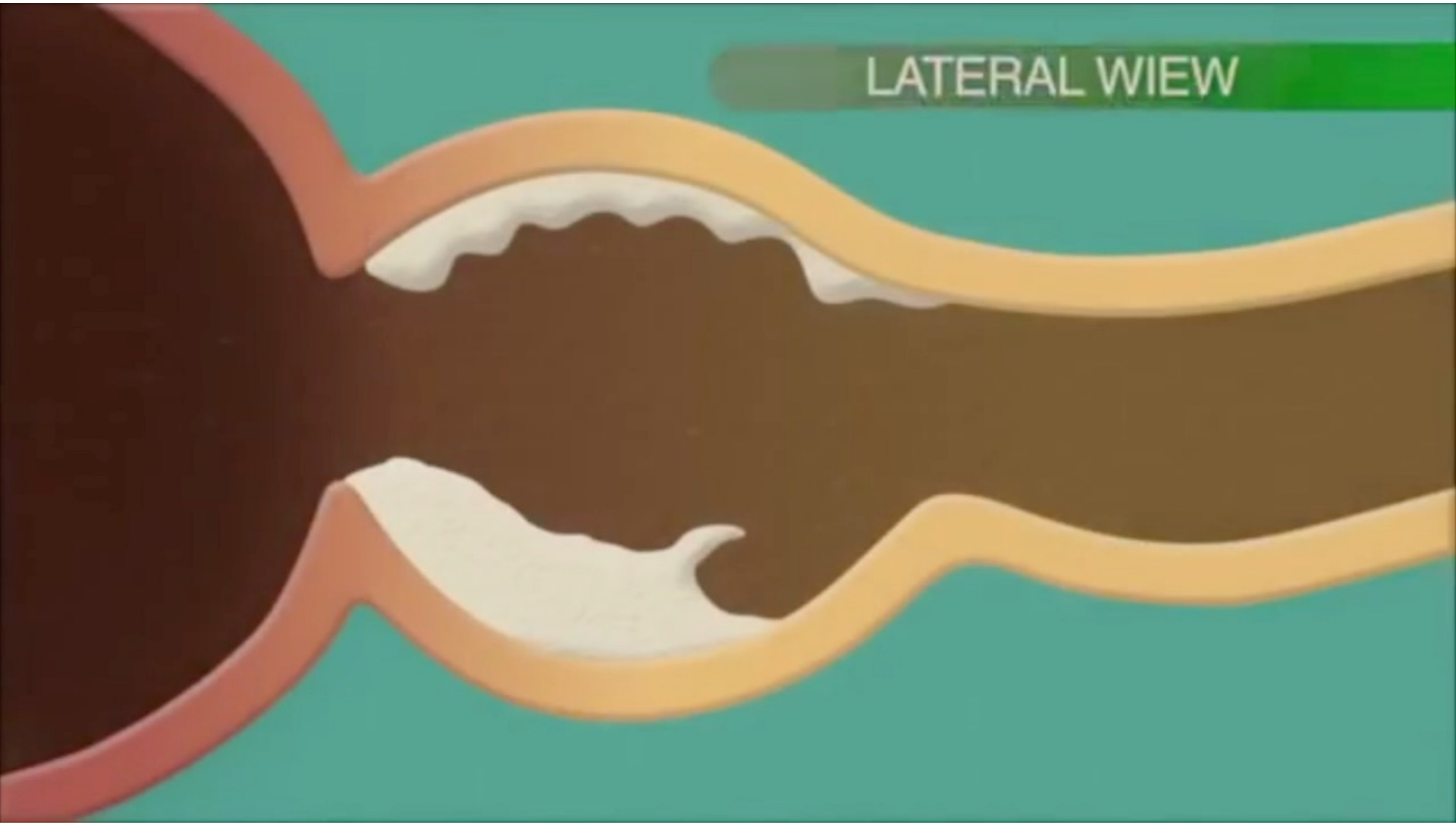
Practical considerations: The 180-W XPS represents the current standard of generators for PVP; however, the number and quality of supporting publications are low, especially for large glands (> 100 mL), with no long-term follow up.

→ VAPORIZZAZIONE ANATOMICA

→ **ENUCLEAZIONE**

PVP ANATOMICA

VAPORIZZAZIONE ANATOMICA



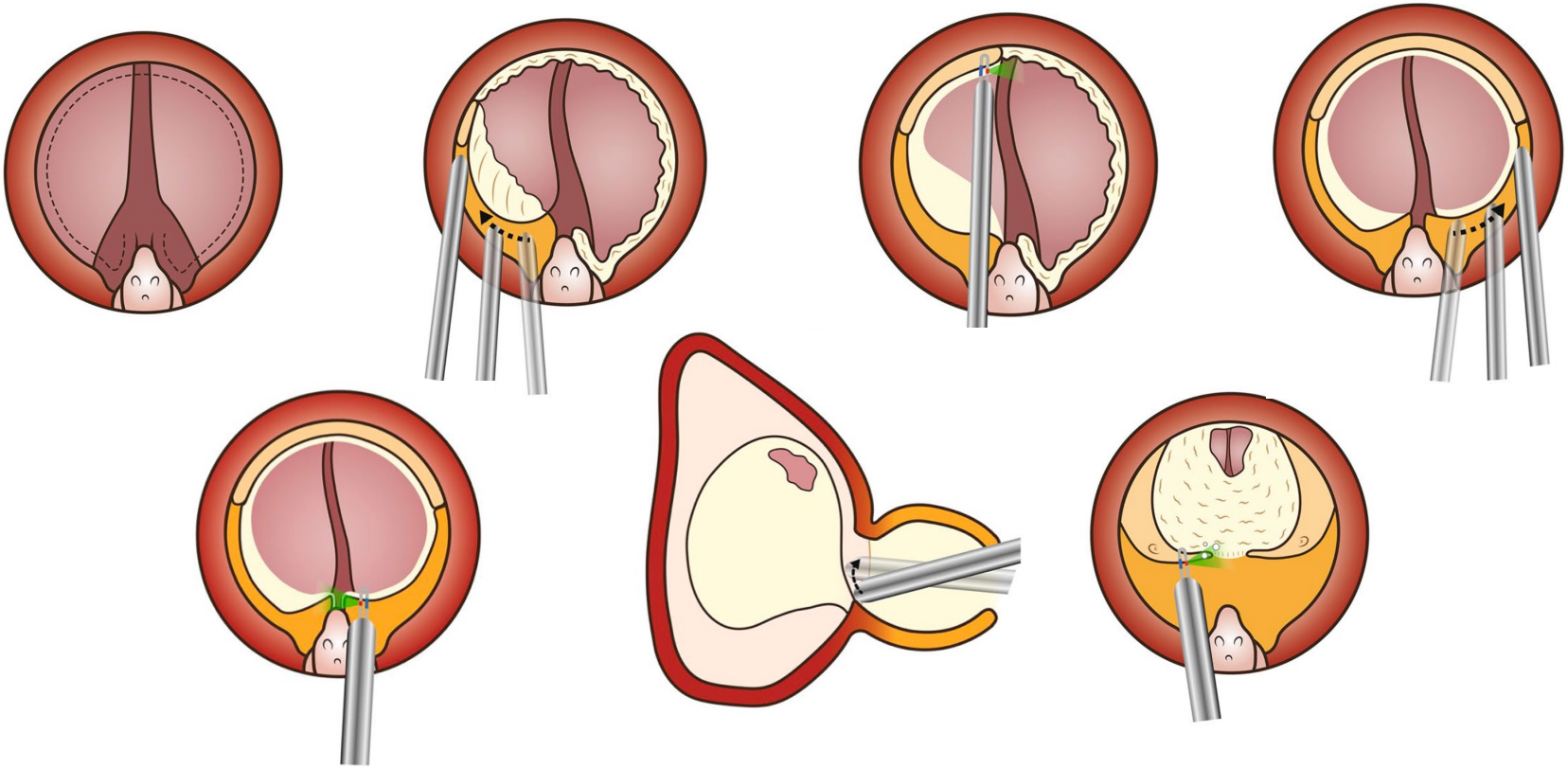
GREENLEP

World J Urol (2015) 33:539–547
DOI 10.1007/s00345-014-1339-9

TOPIC PAPER

Common trend: move to enucleation—Is there a case for GreenLight enucleation? Development and description of the technique

Fernando Gomez Sancha · Vanesa Cuadros Rivera · Georgi Georgiev · Alexander Botsevski · Julian Kotsev · Thomas Herrmann

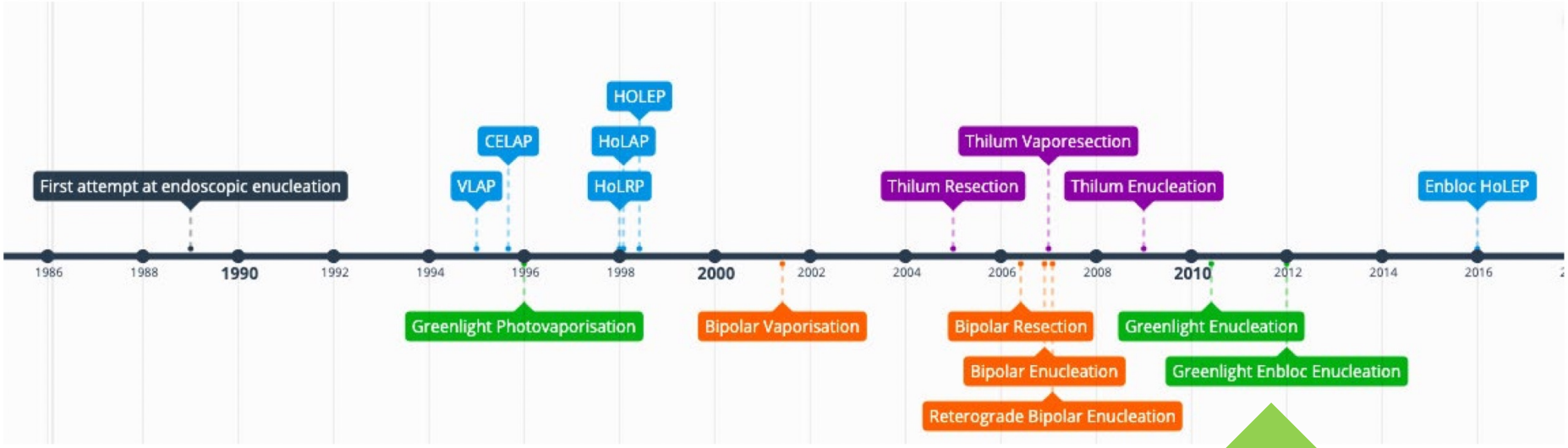


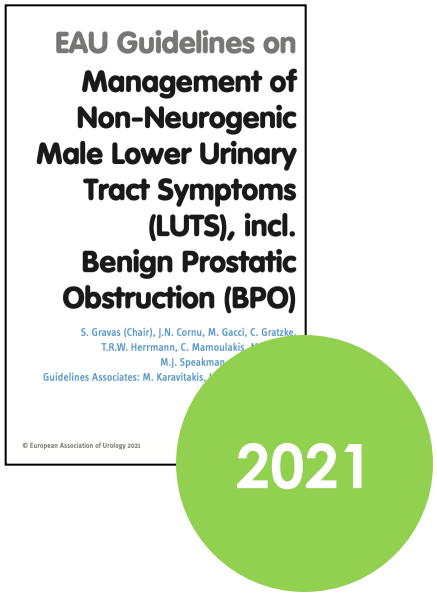
INVITED REVIEW

First International Journal of Andrology
ANDROLOGIA
WILEY

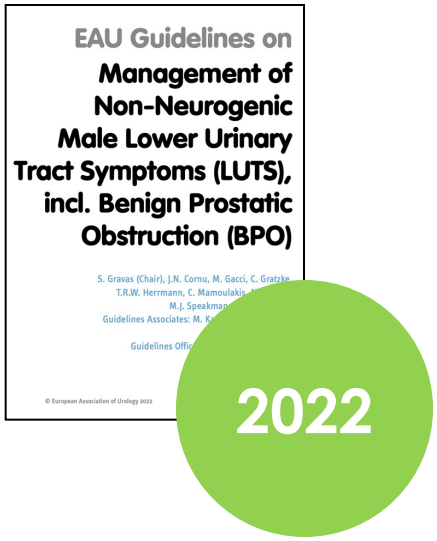
The Evolution of *Endoscopic* Prostate Enucleation: A historical perspective

Sumeet K. Reddy[1] | Victoria Utley[1] | Peter J. Gilling[1,2]





Prima citazione sulle linee guida



Enucleation of the prostate

5.3.2.1 Open prostatectomy

5.3.2.2 Bipolar transurethral enucleation of the prostate

5.3.2.3 Holmium laser enucleation of the prostate

5.3.2.4 Thulium:yttrium-aluminium-garnet laser (Tm:YAG) enucleation of the prostate

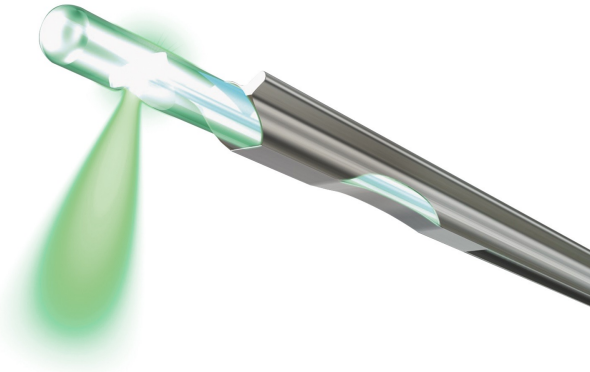
5.3.2.5 Diode laser enucleation of the prostate

5.3.2.6 Enucleation techniques under investigation

5.3.2.6.1 Minimal invasive simple prostatectomy

5.3.2.6.2 532 nm (‘Greenlight’) laser enucleation of the prostate

GreenLEP



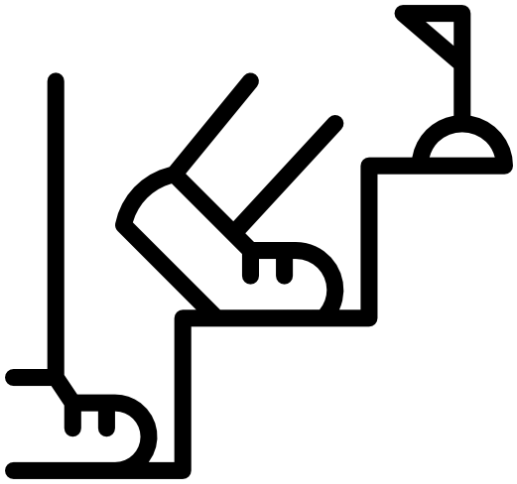
Caratteristiche

- Enucleazione prevalentemente meccanica
- Fibra 2090 (120 W)
- Funzione coagulo +++ / vaporizzazione +
- Bassa quantità di energia (30-50 kJ)
- Ottimo controllo emostatico
- Risultato anatomico

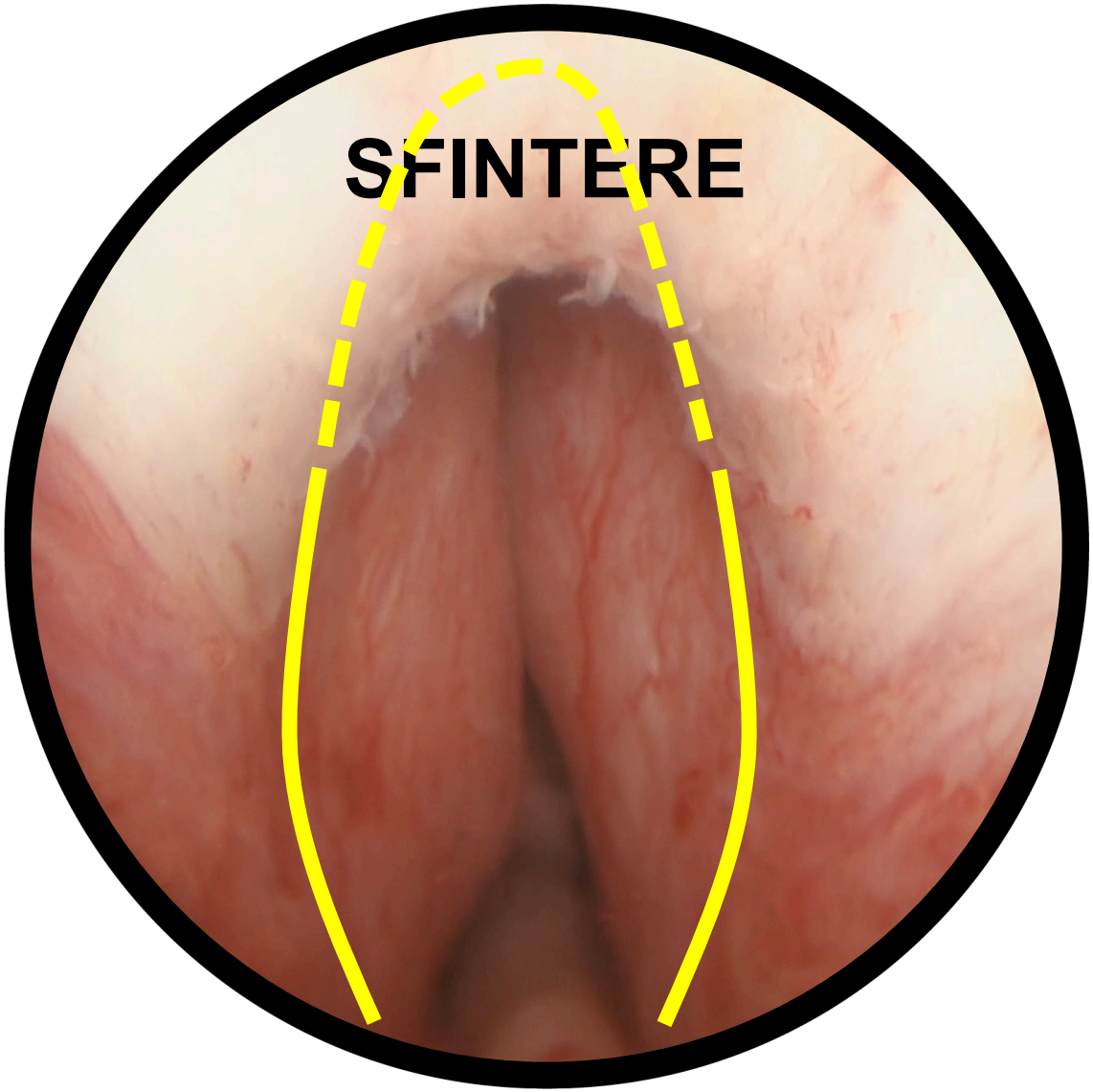
GreenLight™ Laser Therapy

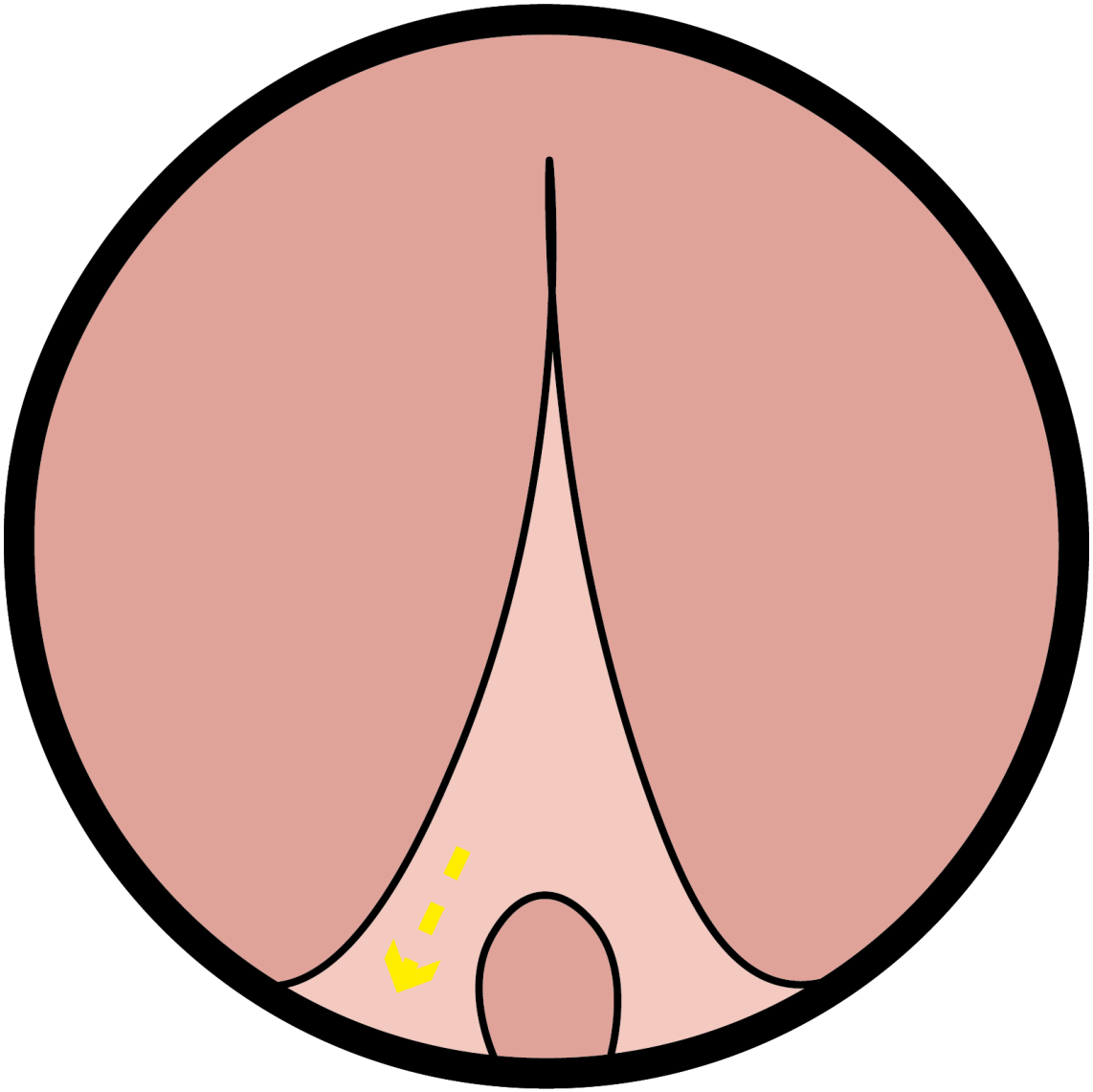
GreenLEP

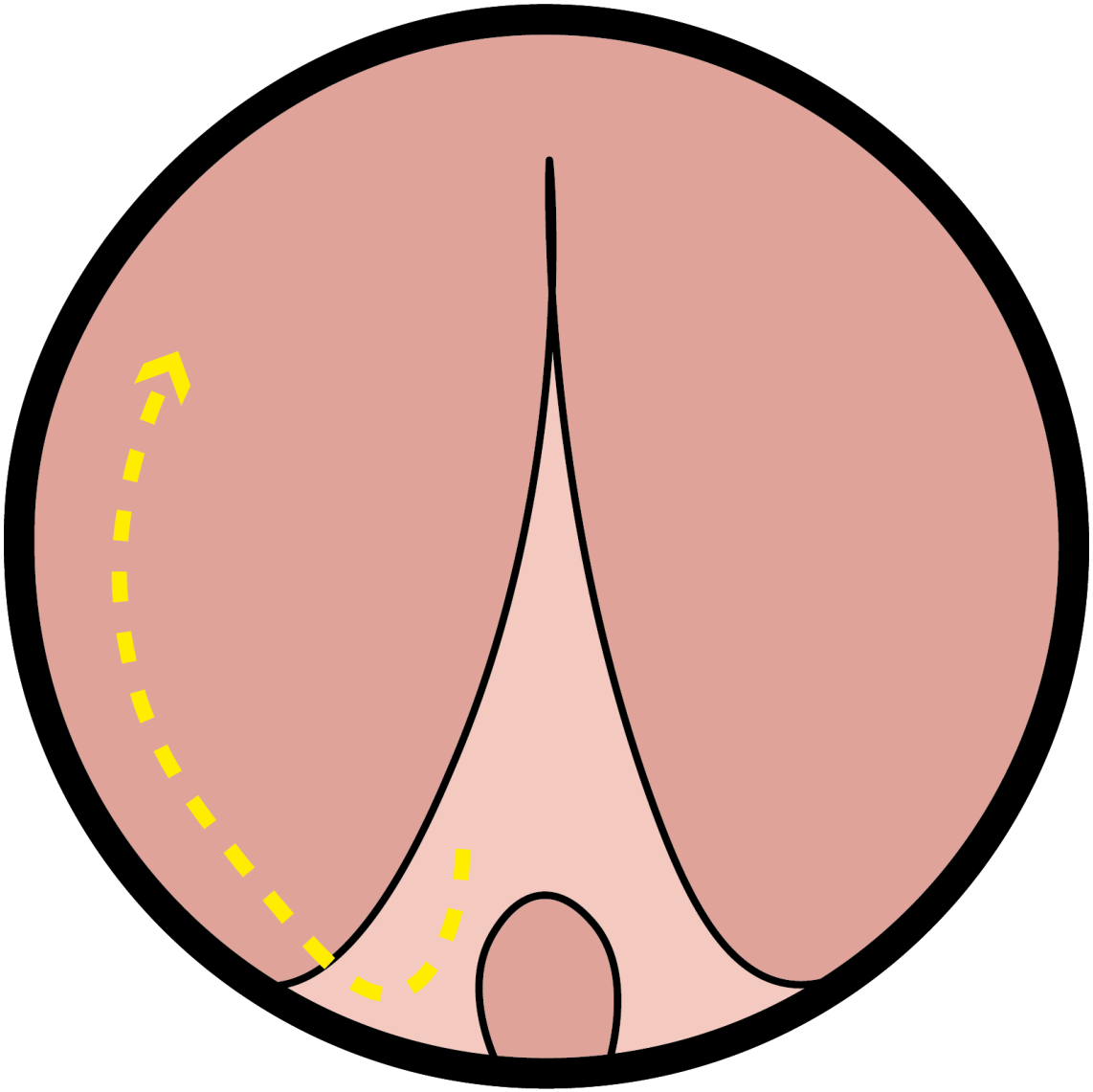
Step by step

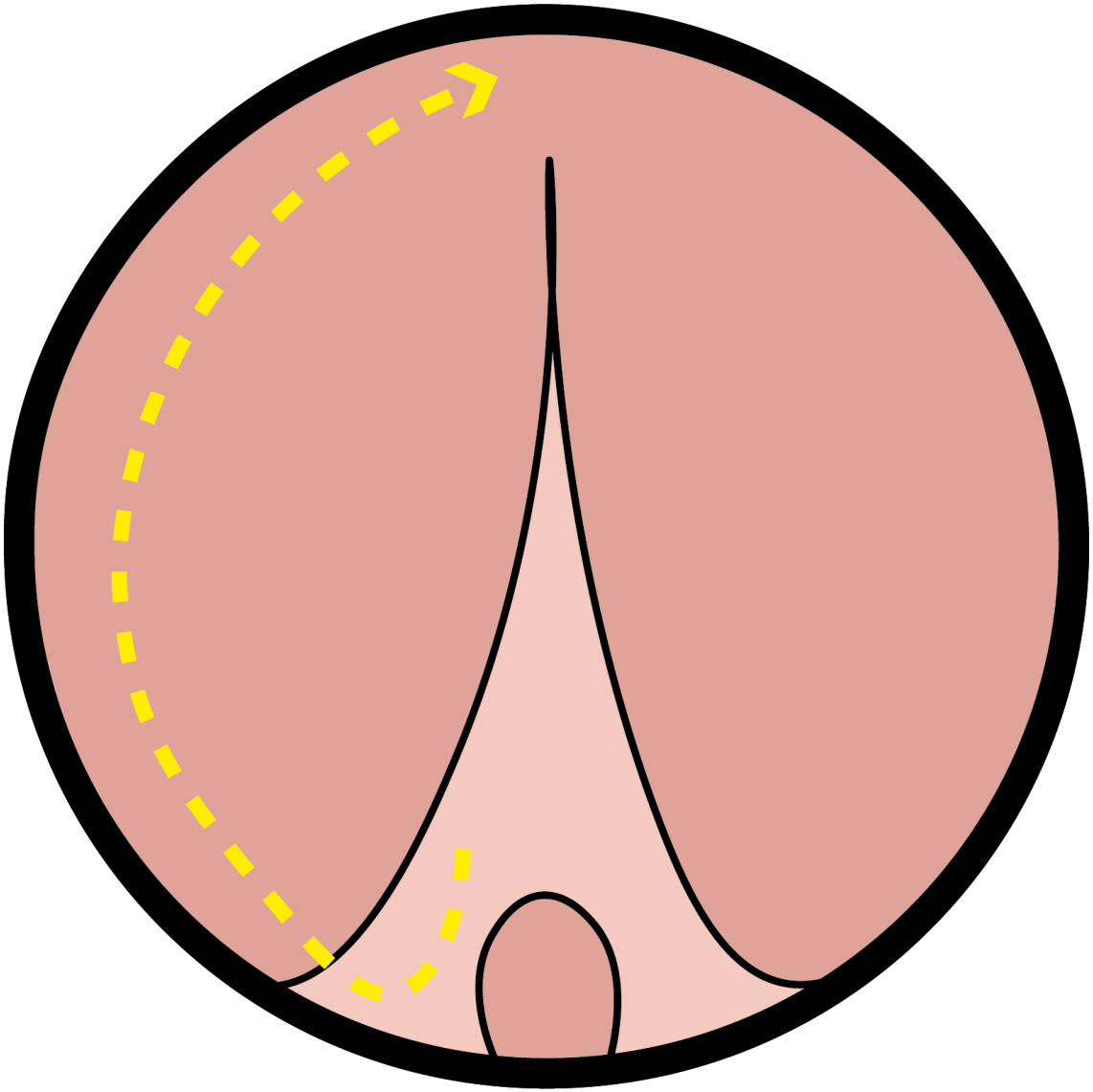


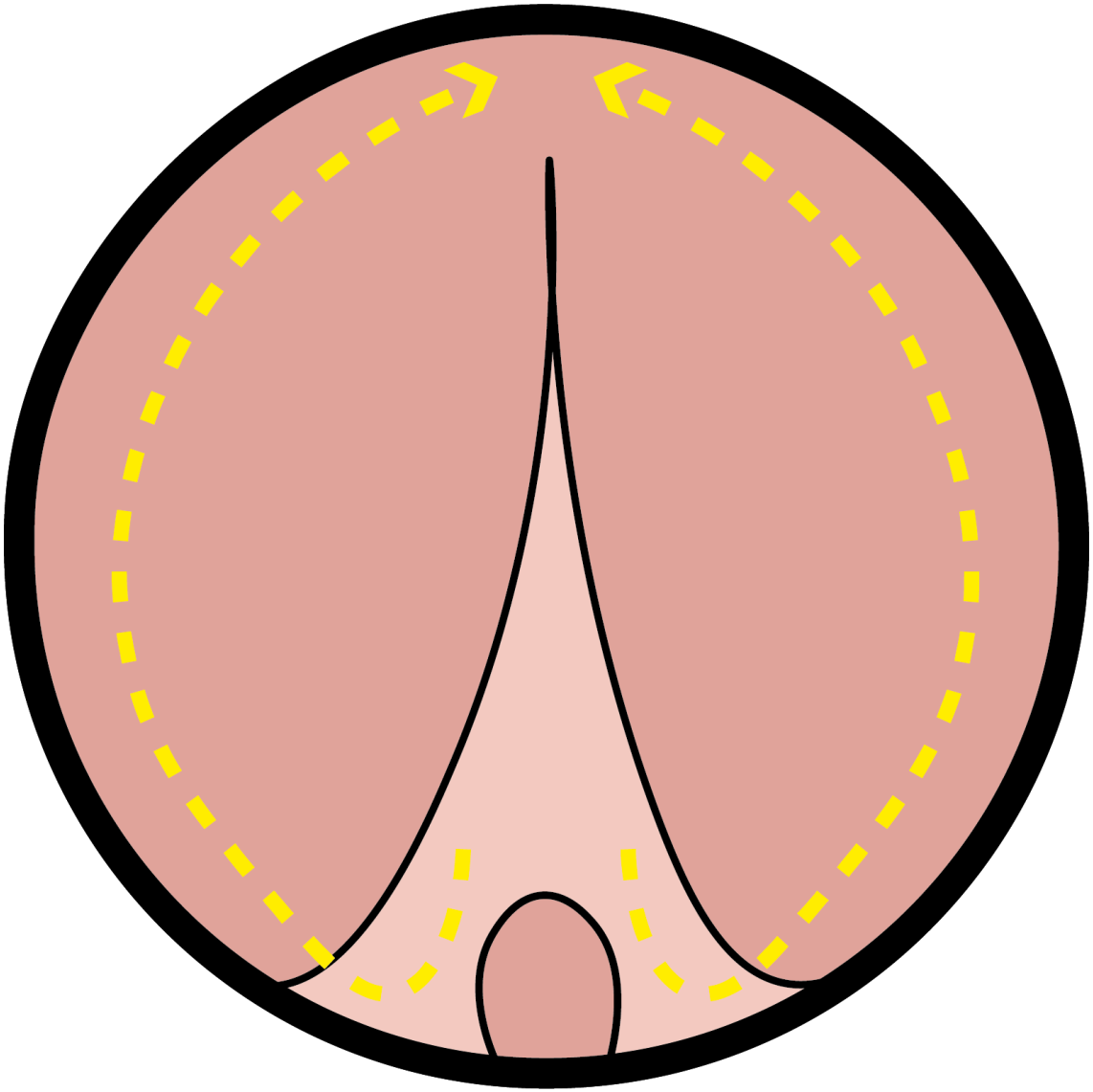
1. Separazione apice-sfintere
2. Individuazione del piano e contornamento apicale
3. Piano anteriore fino allo sbocco in vescica
4. Piani laterali
5. Piano posteriore

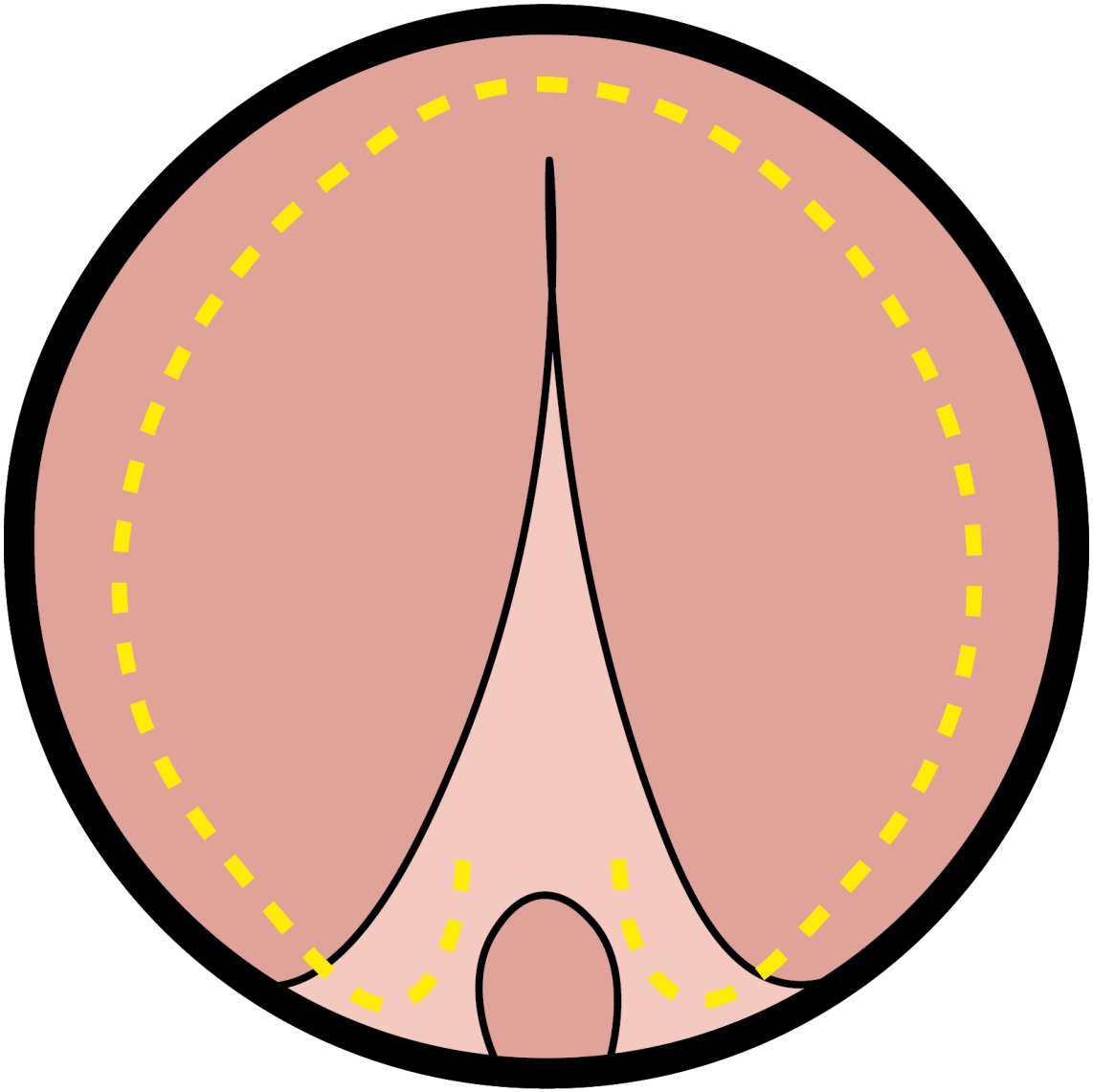

SFINTERE

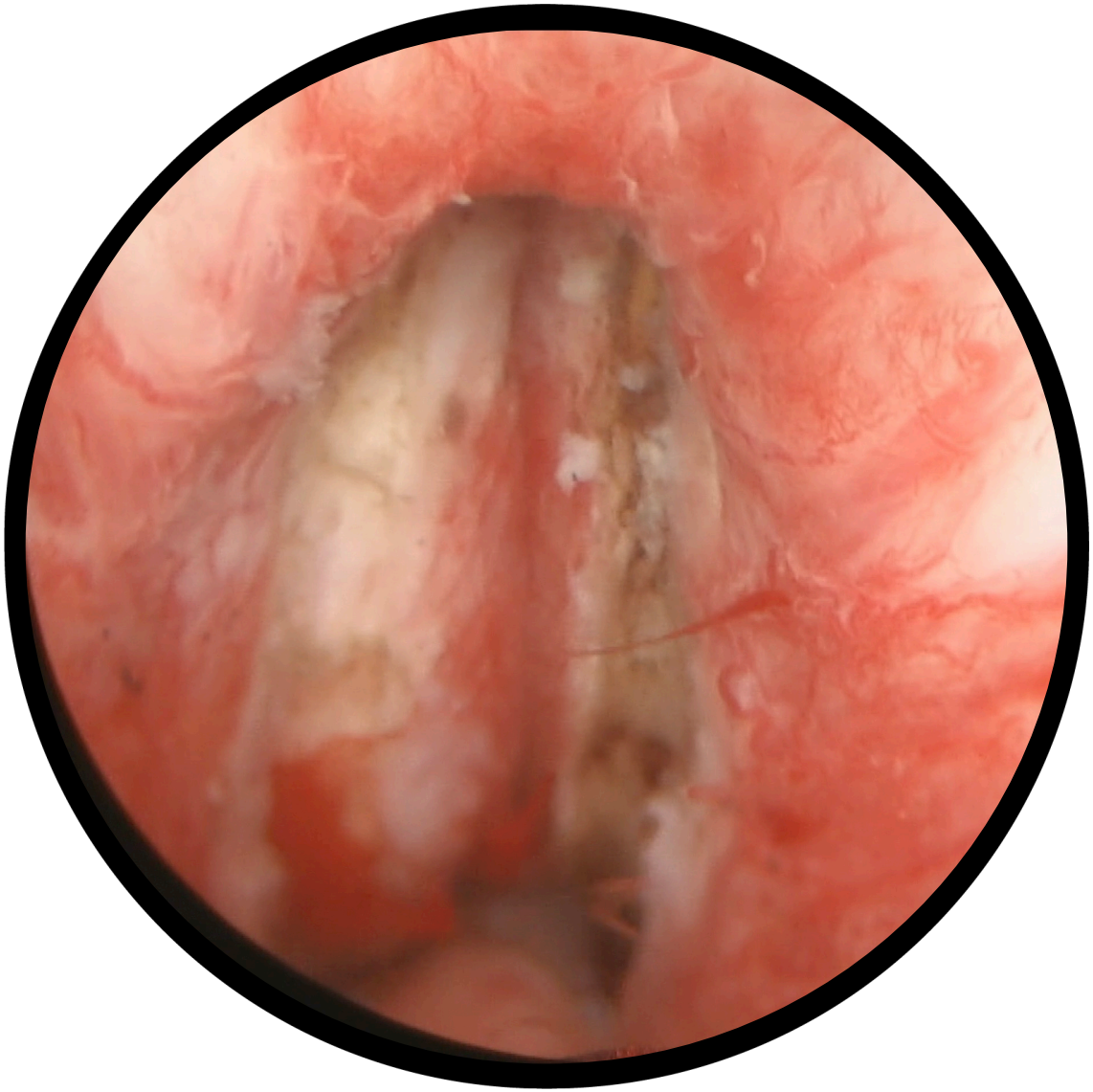


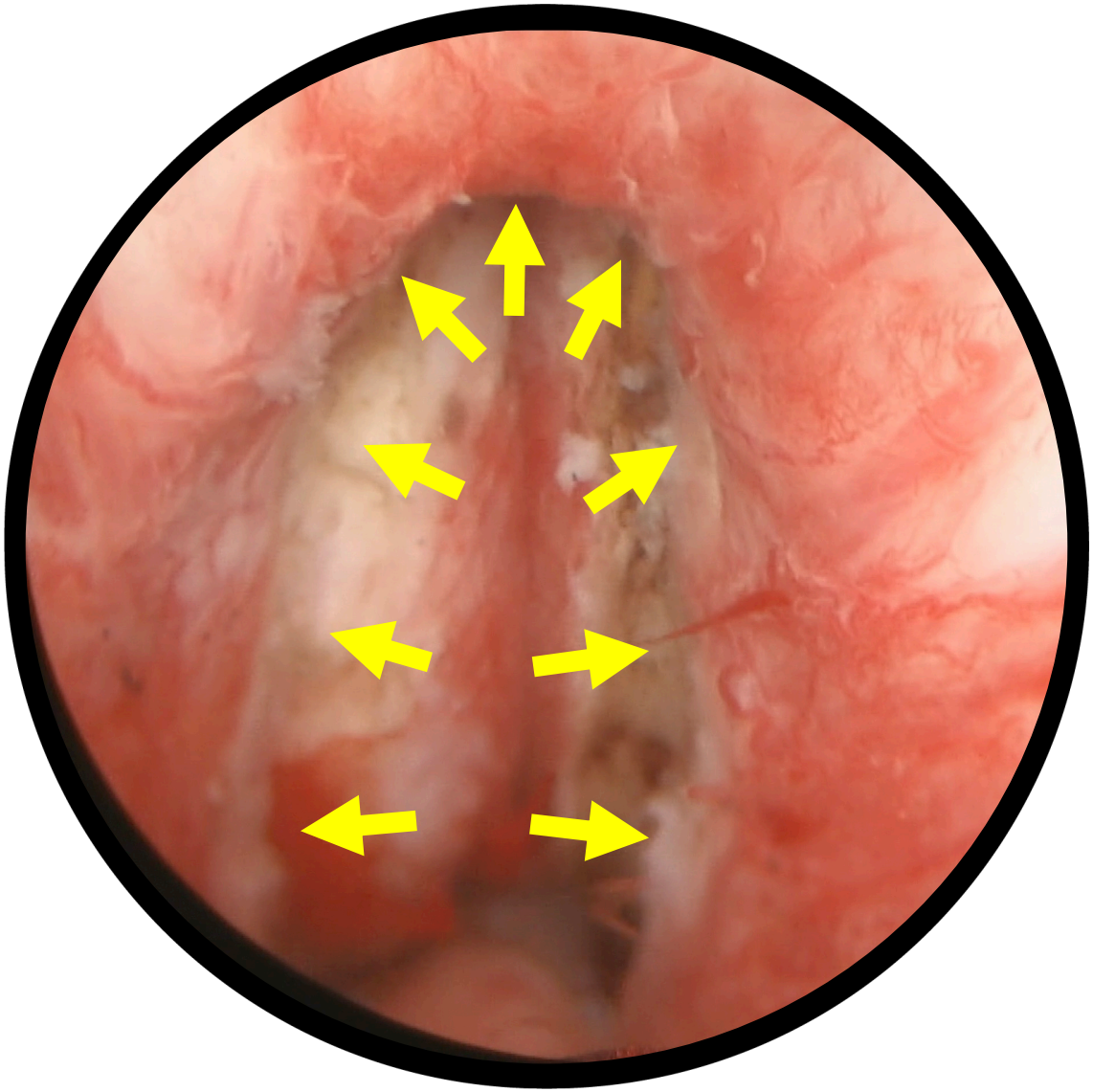


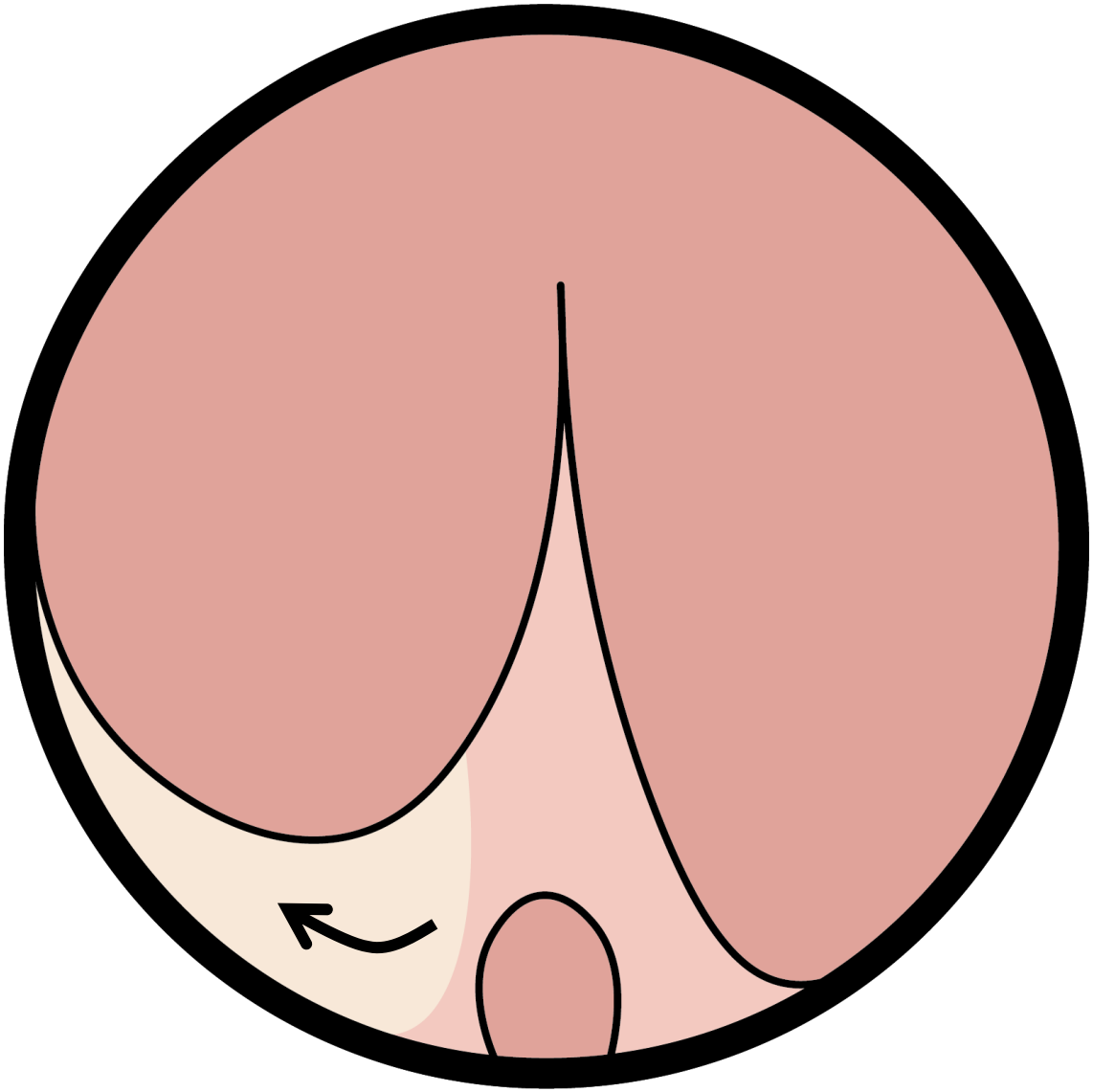


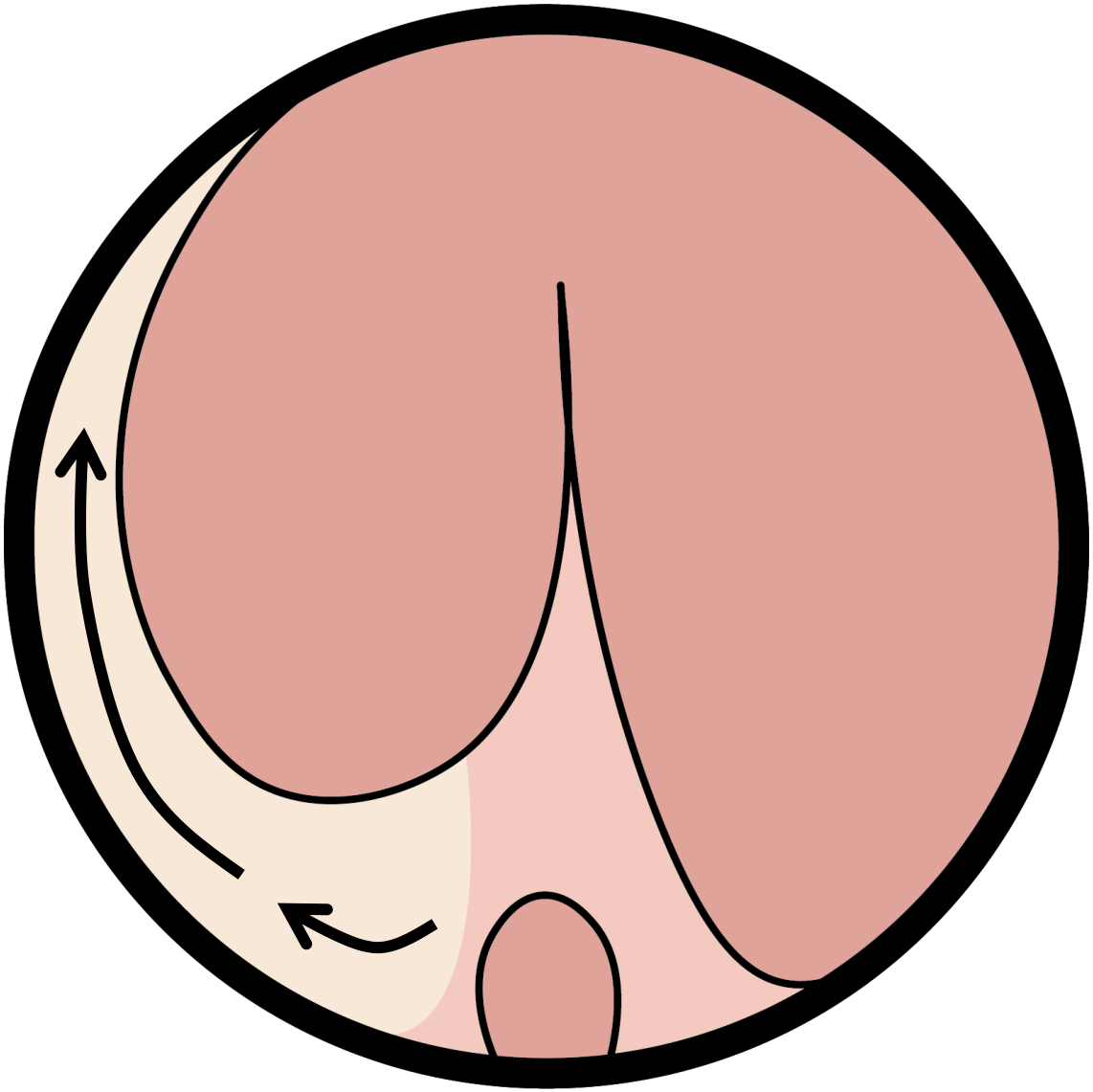


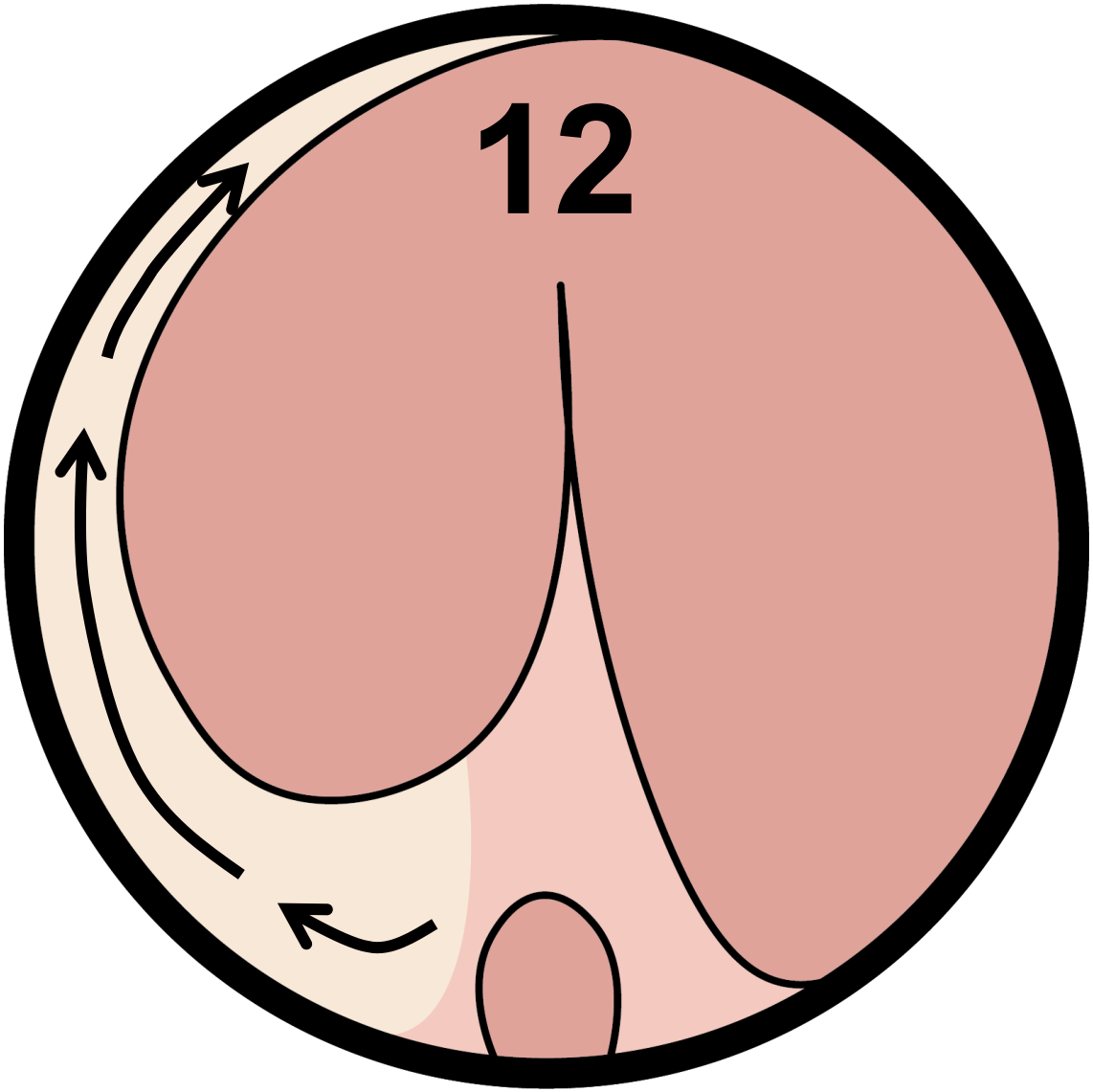








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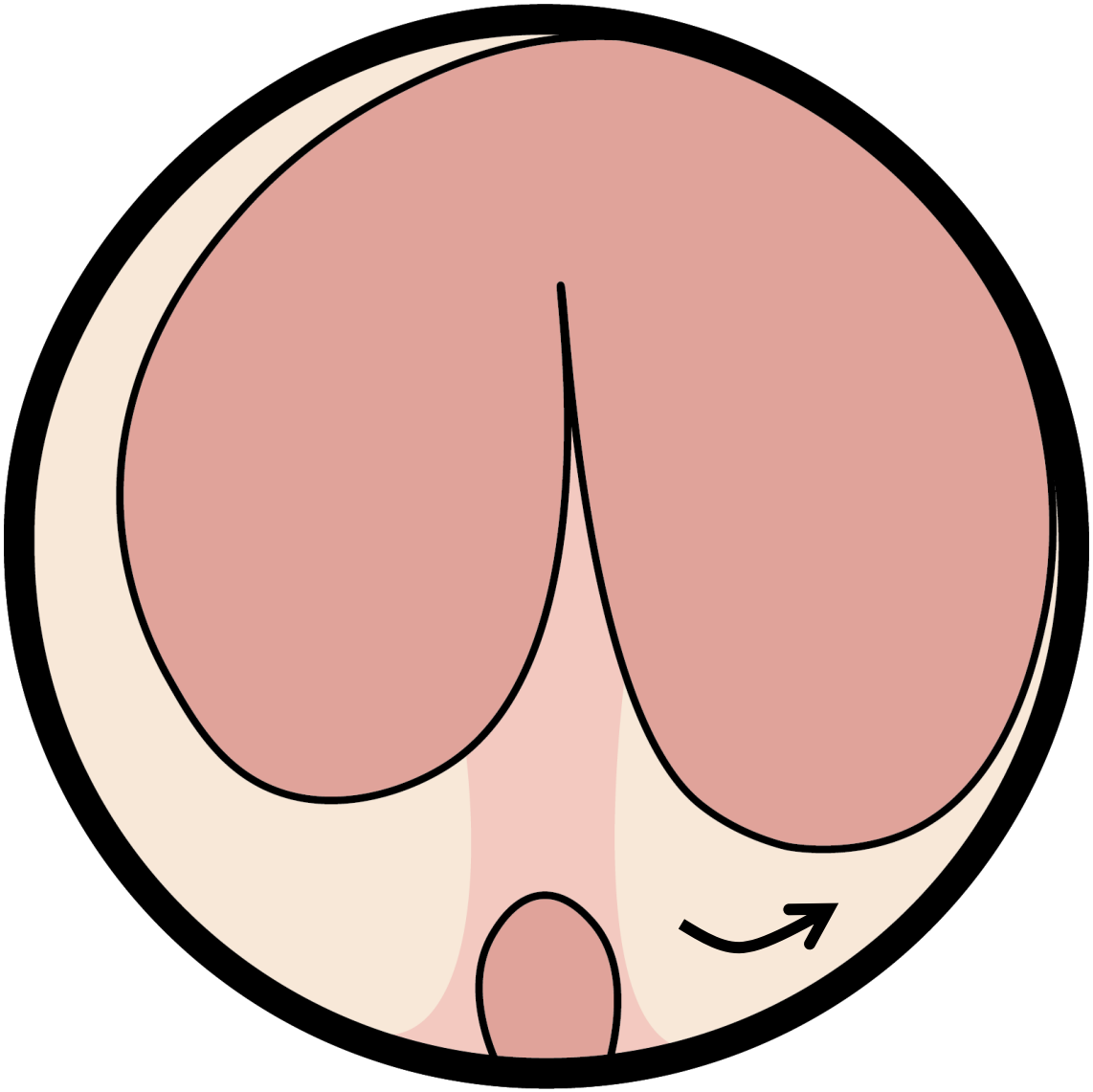

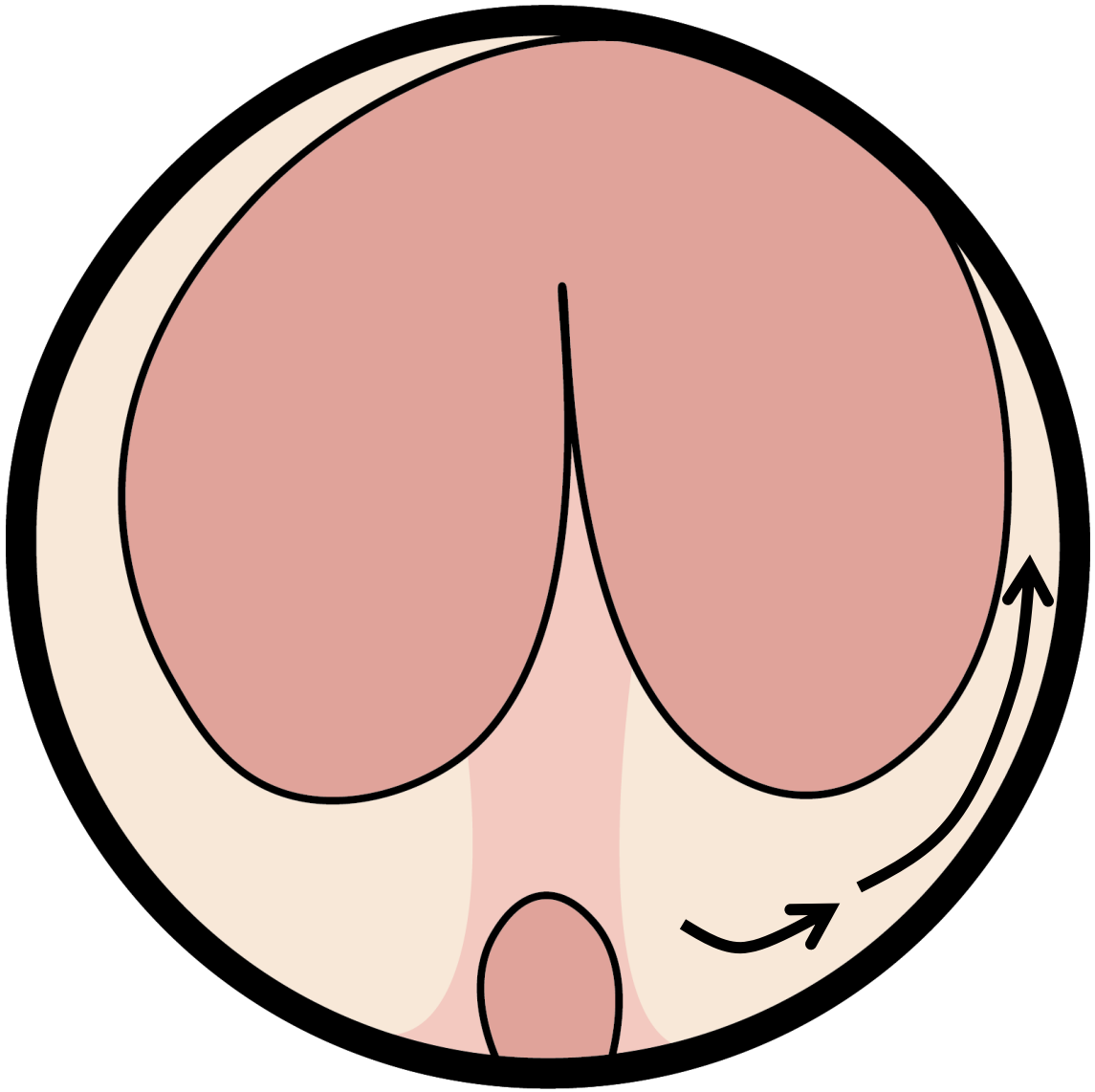

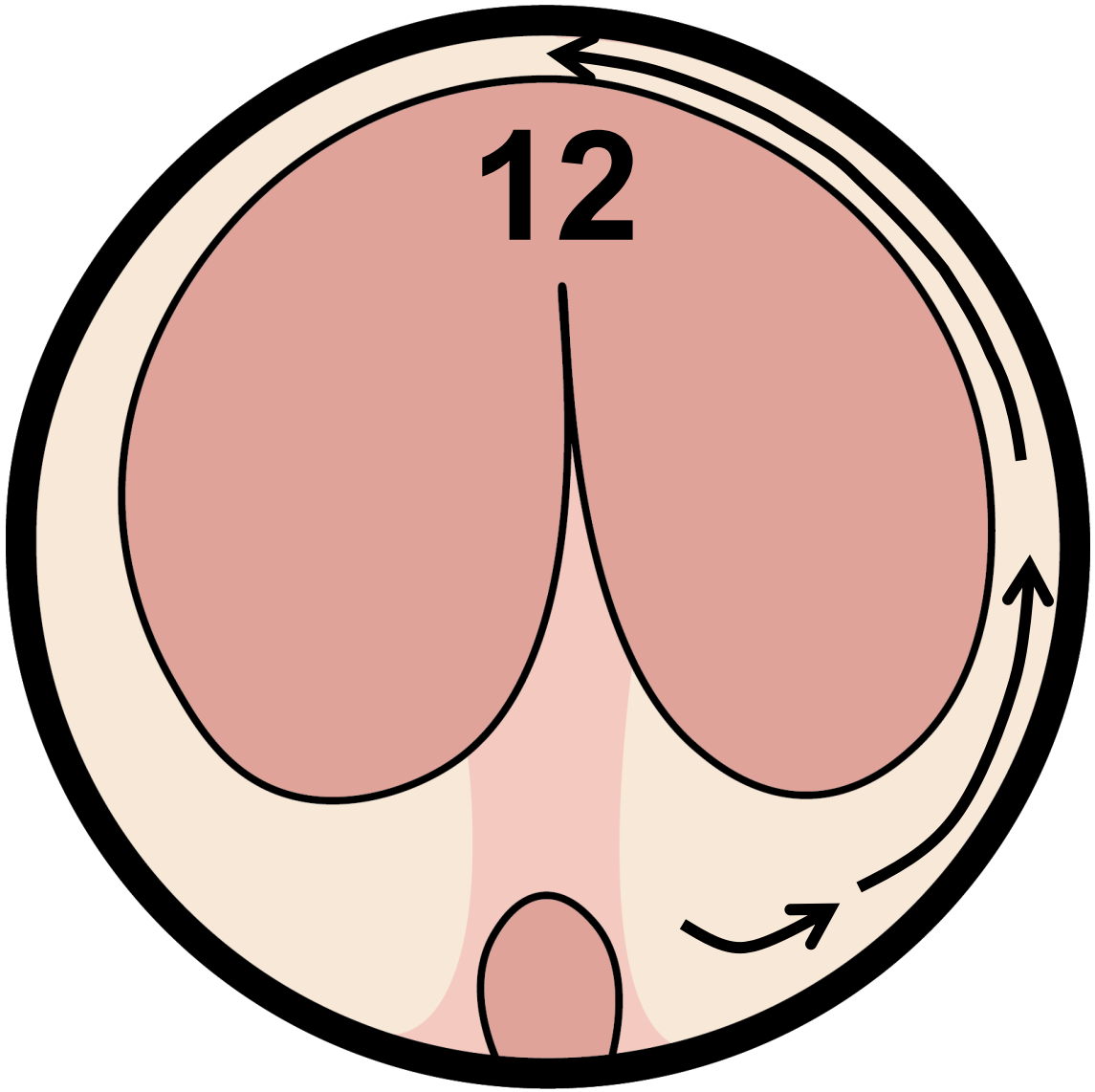
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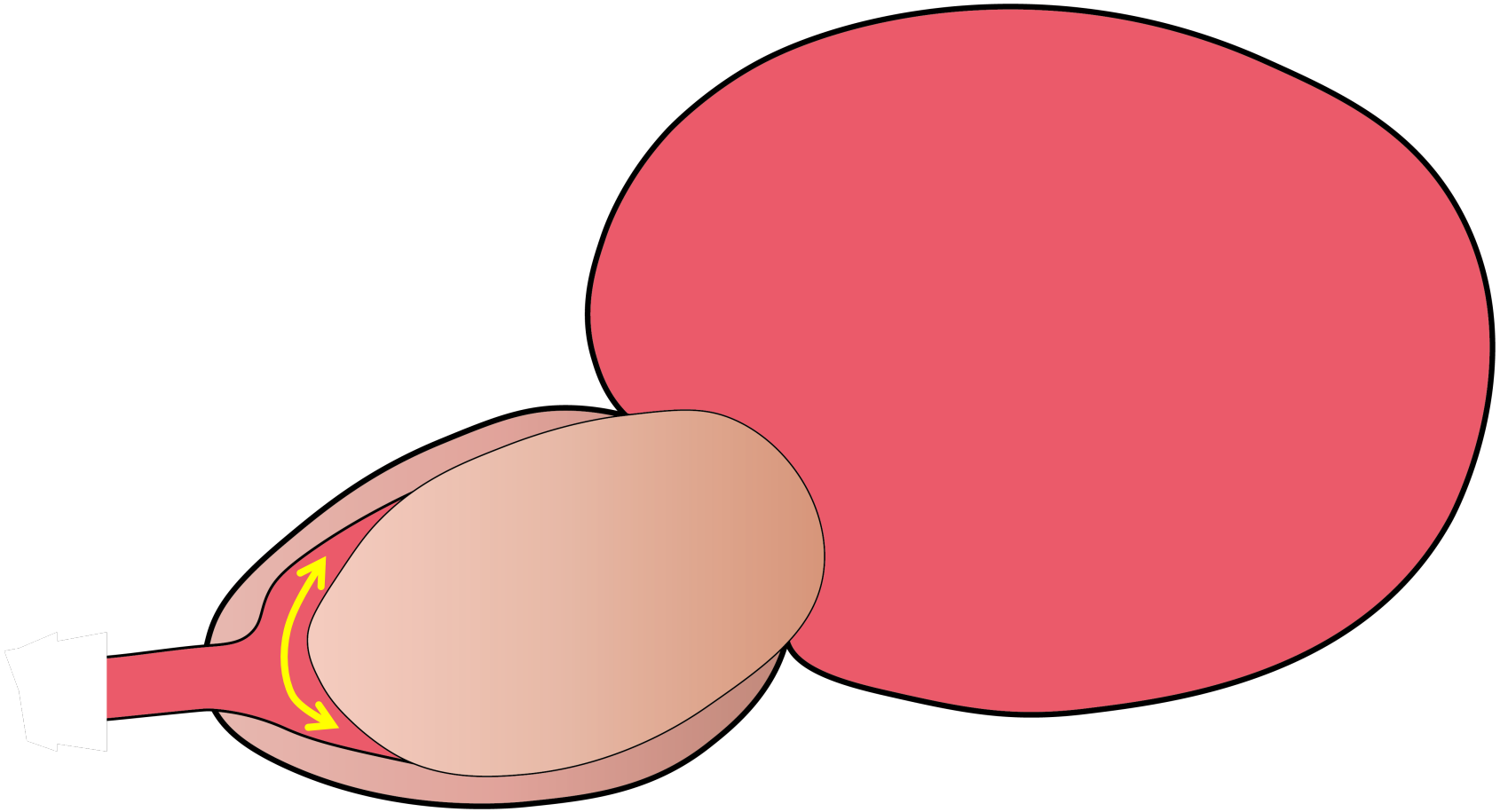

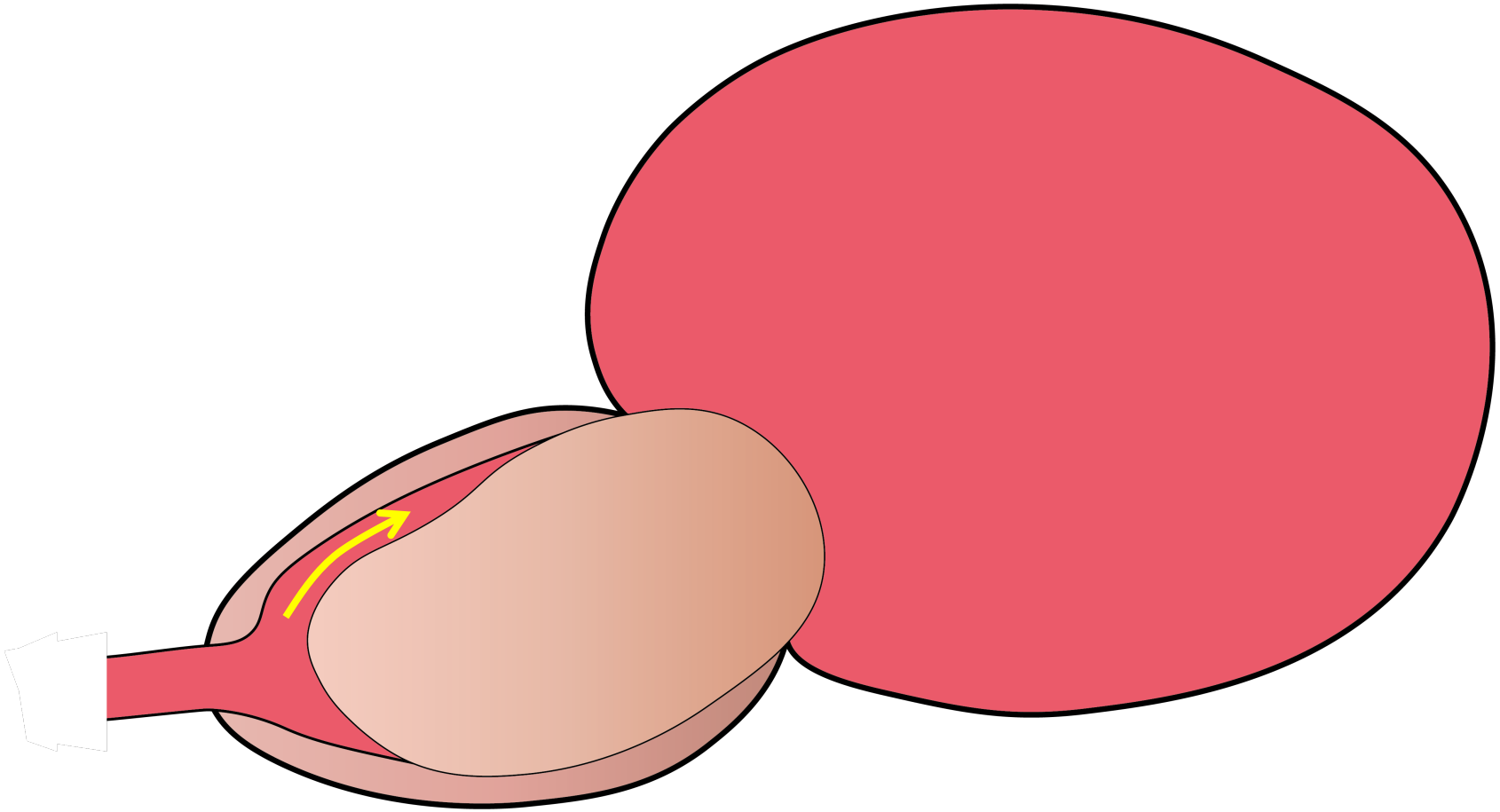

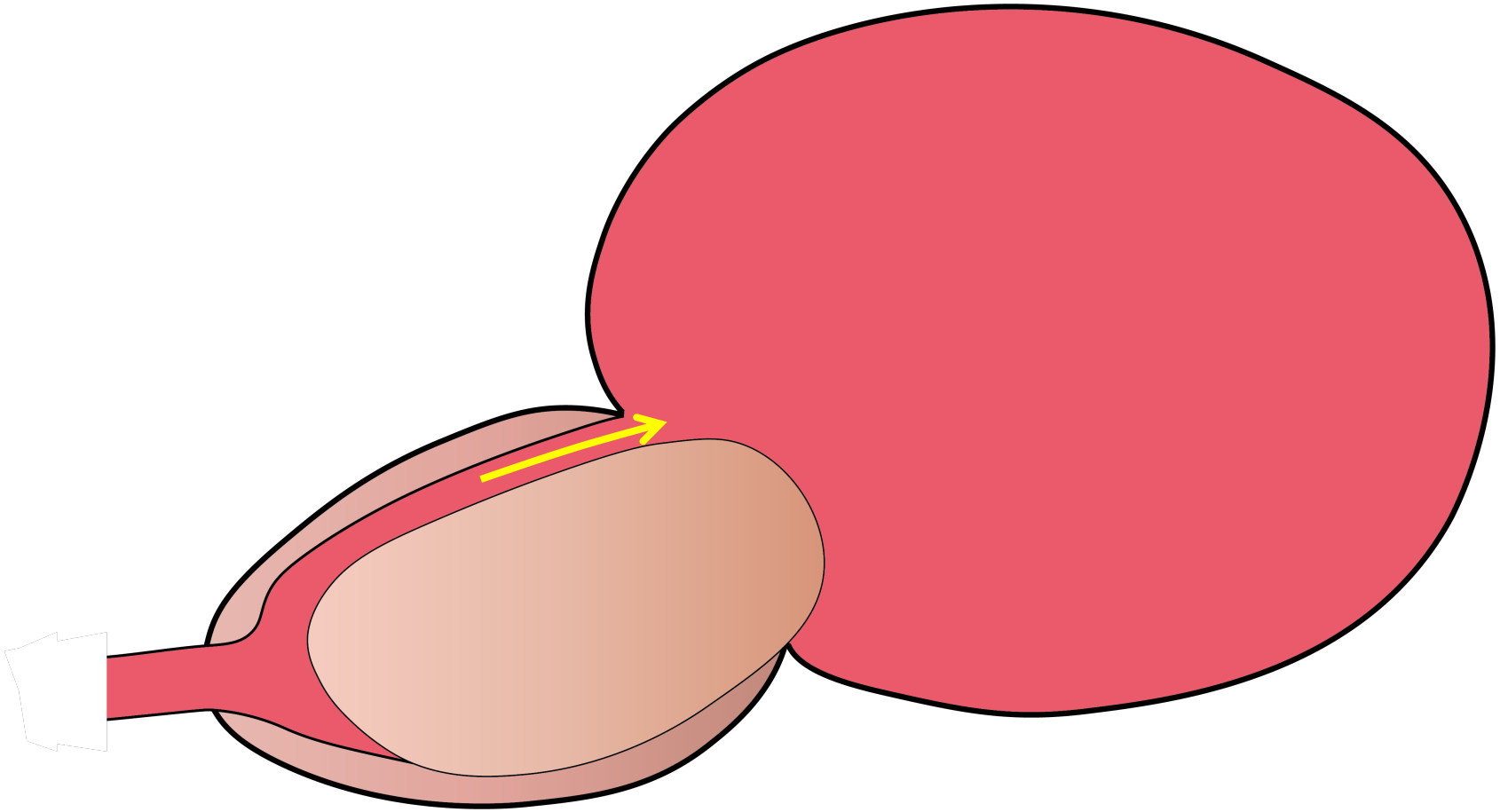

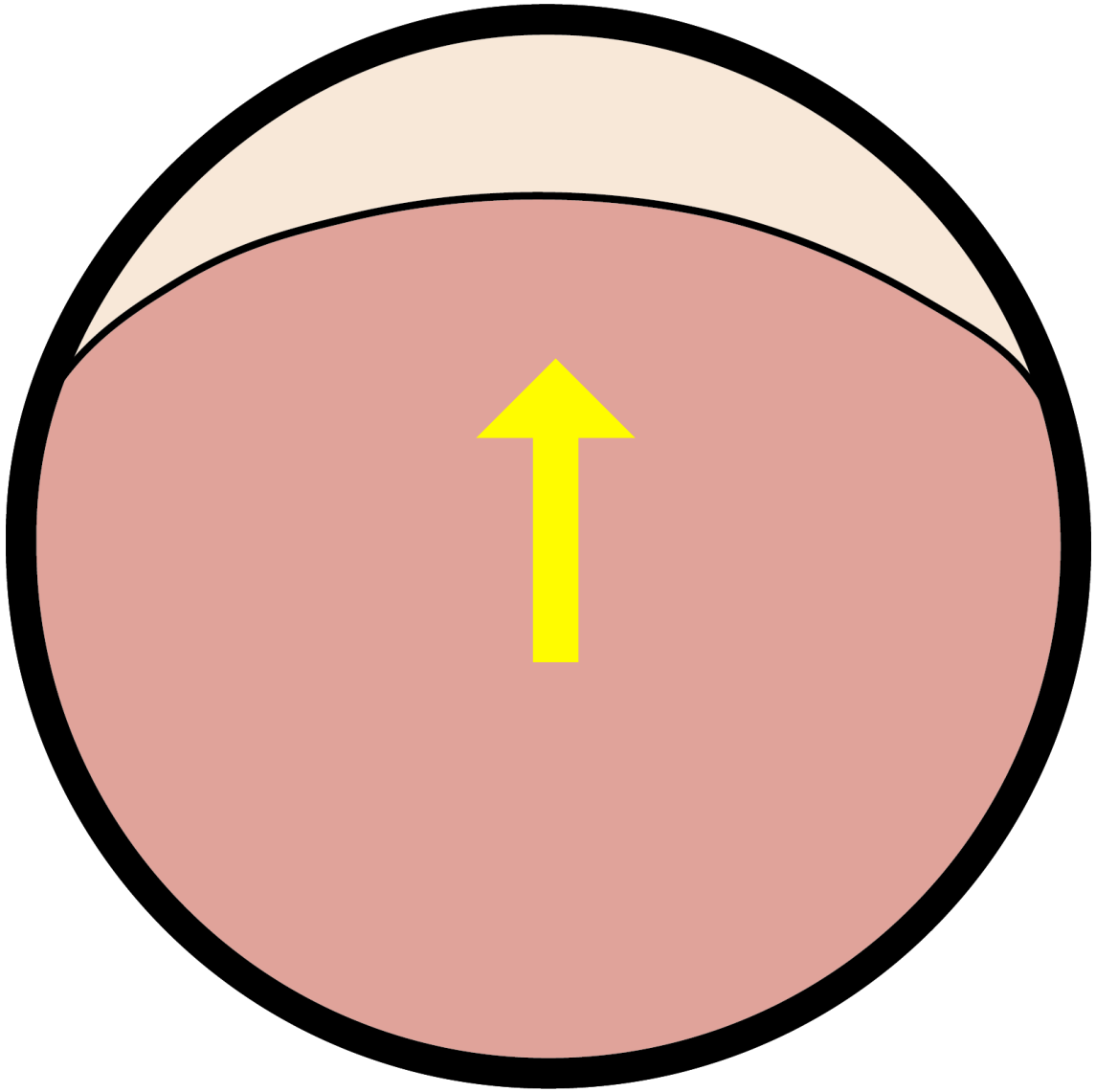

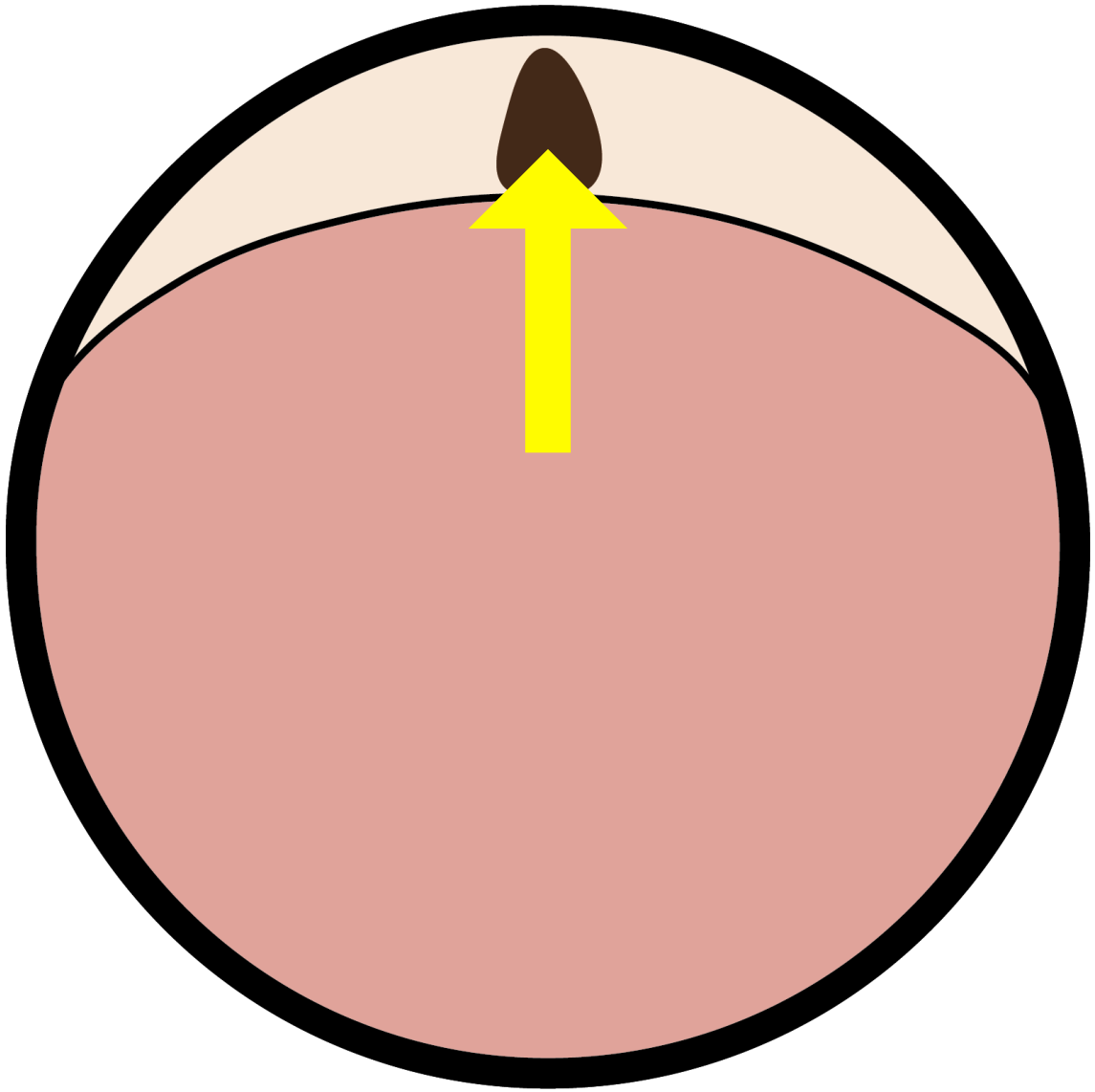

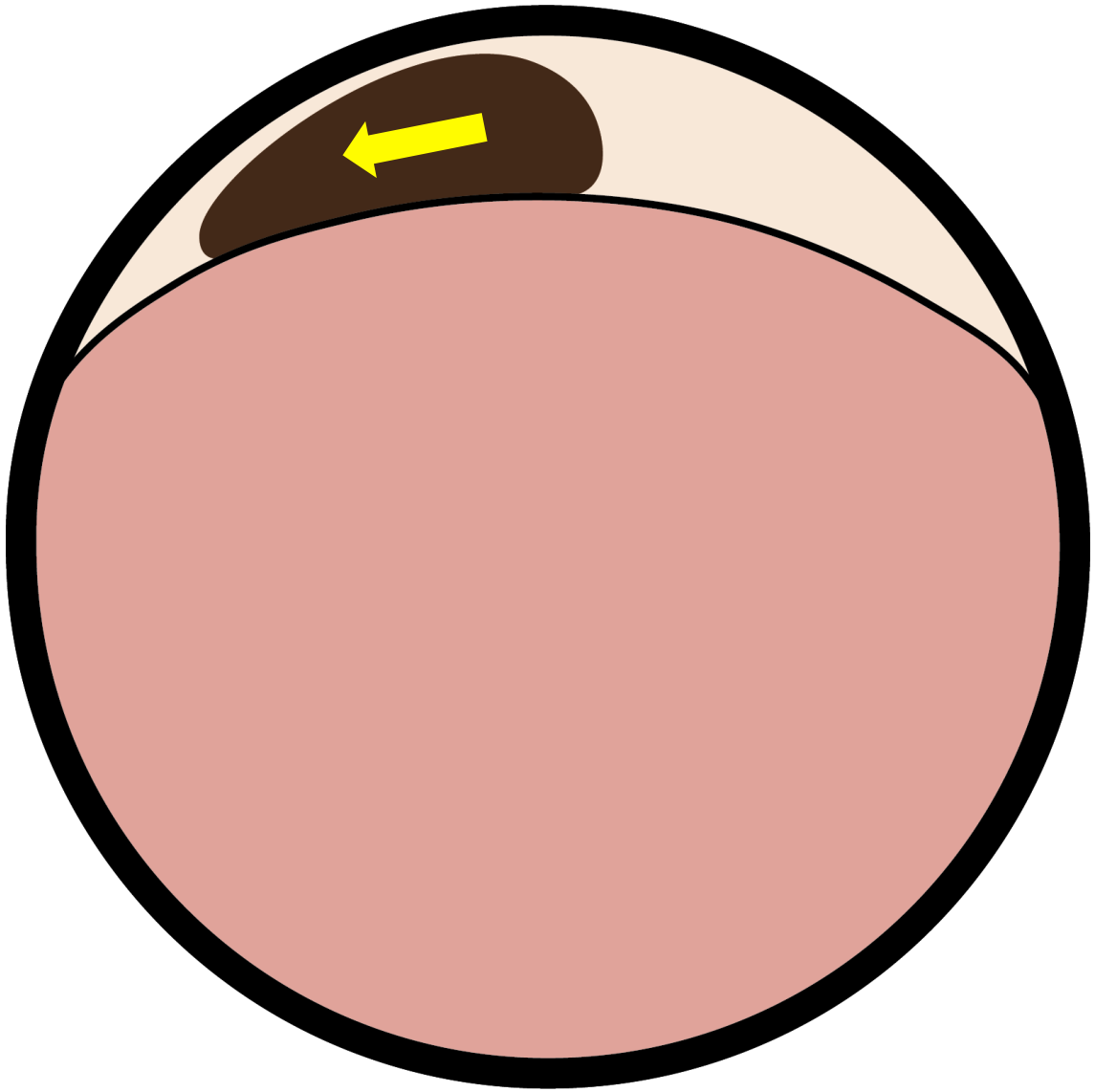

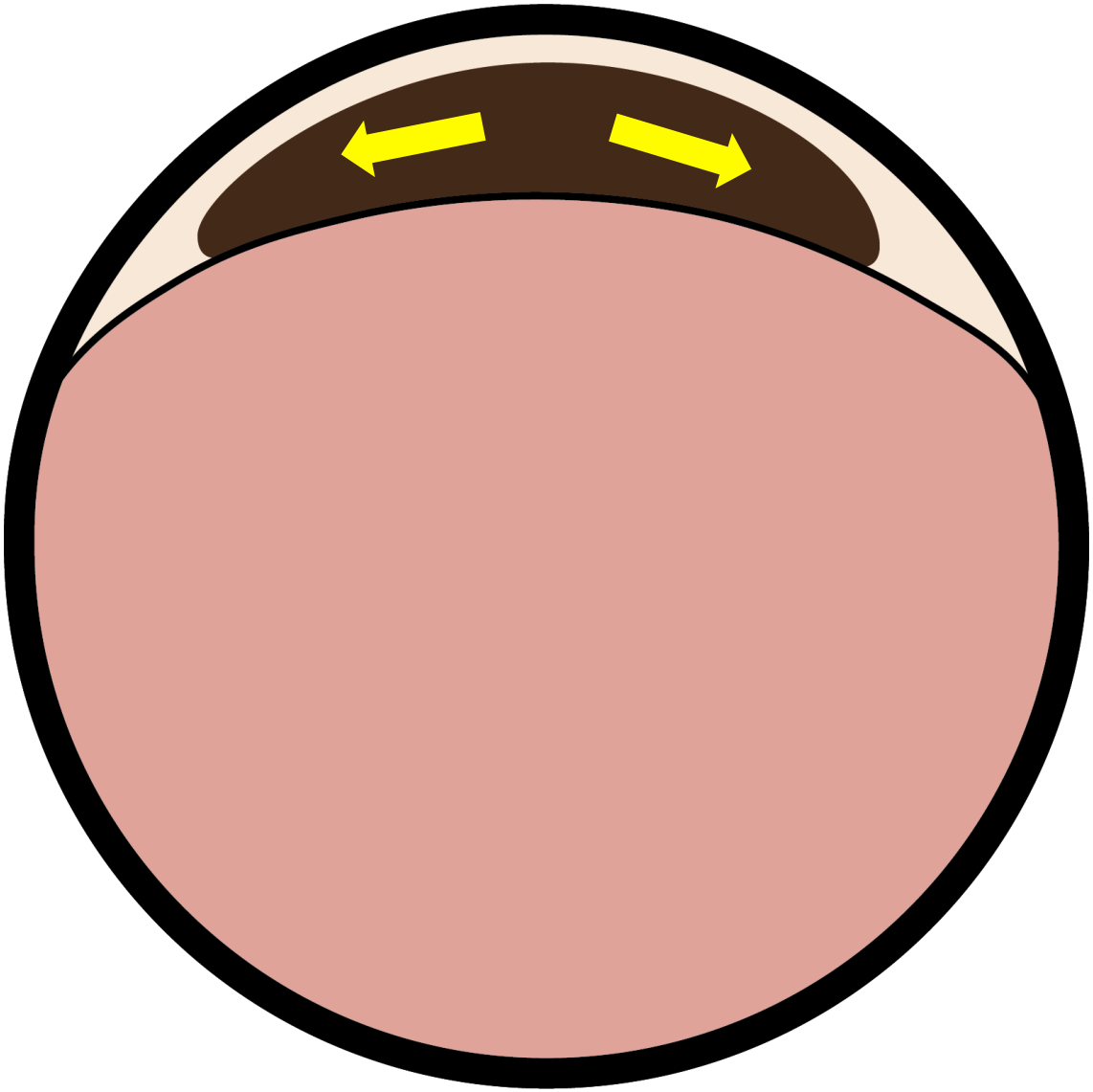

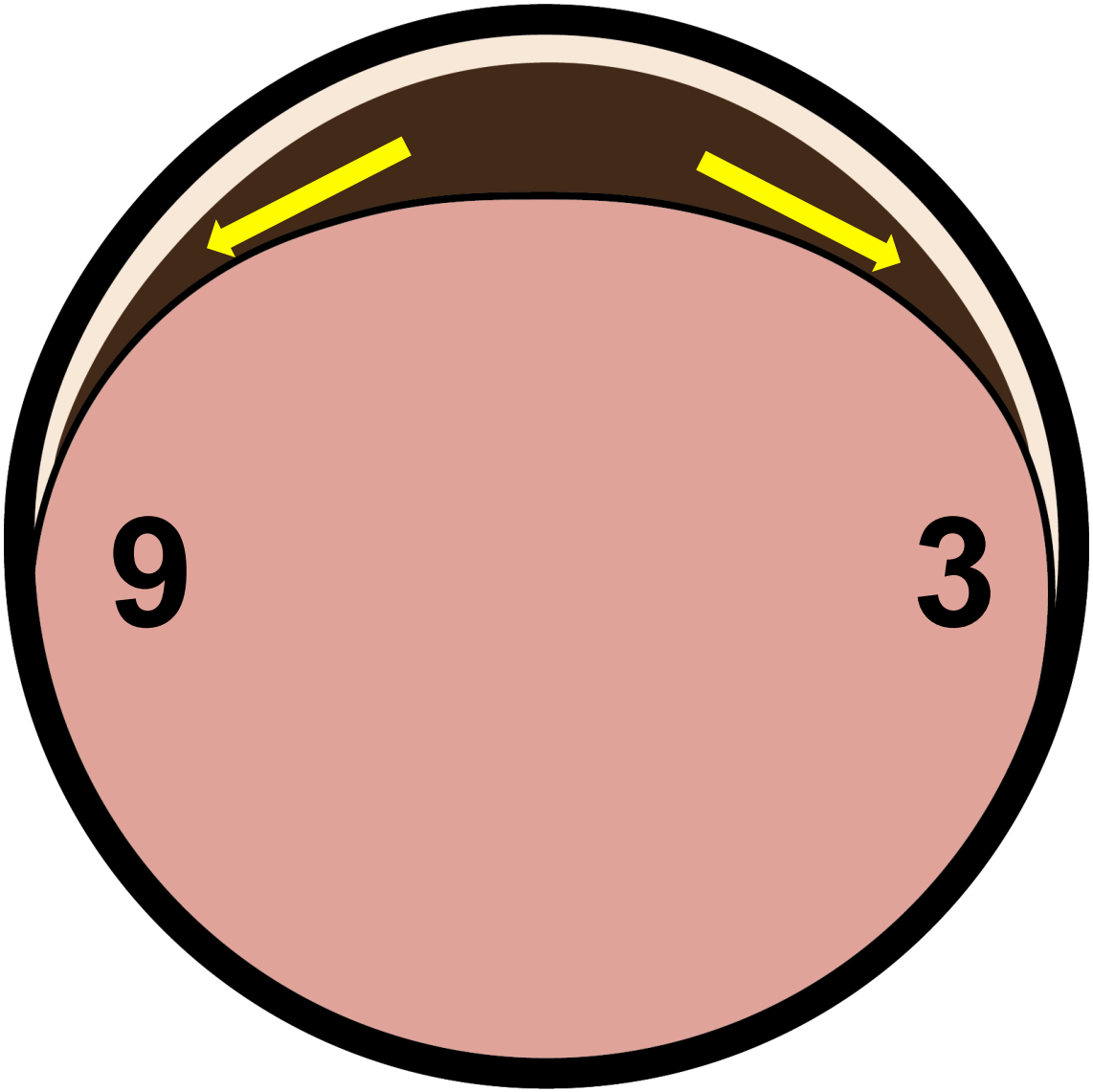
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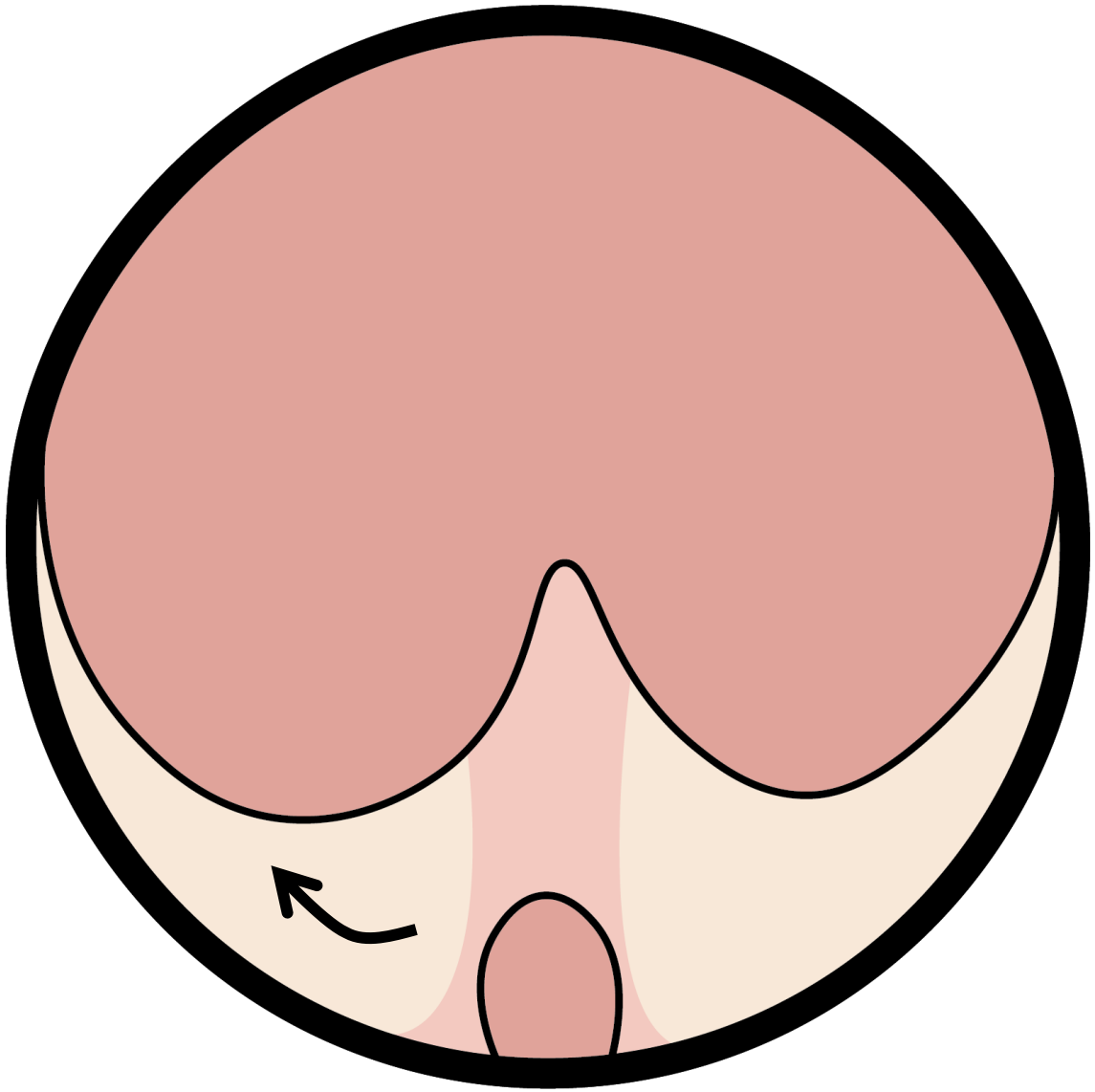

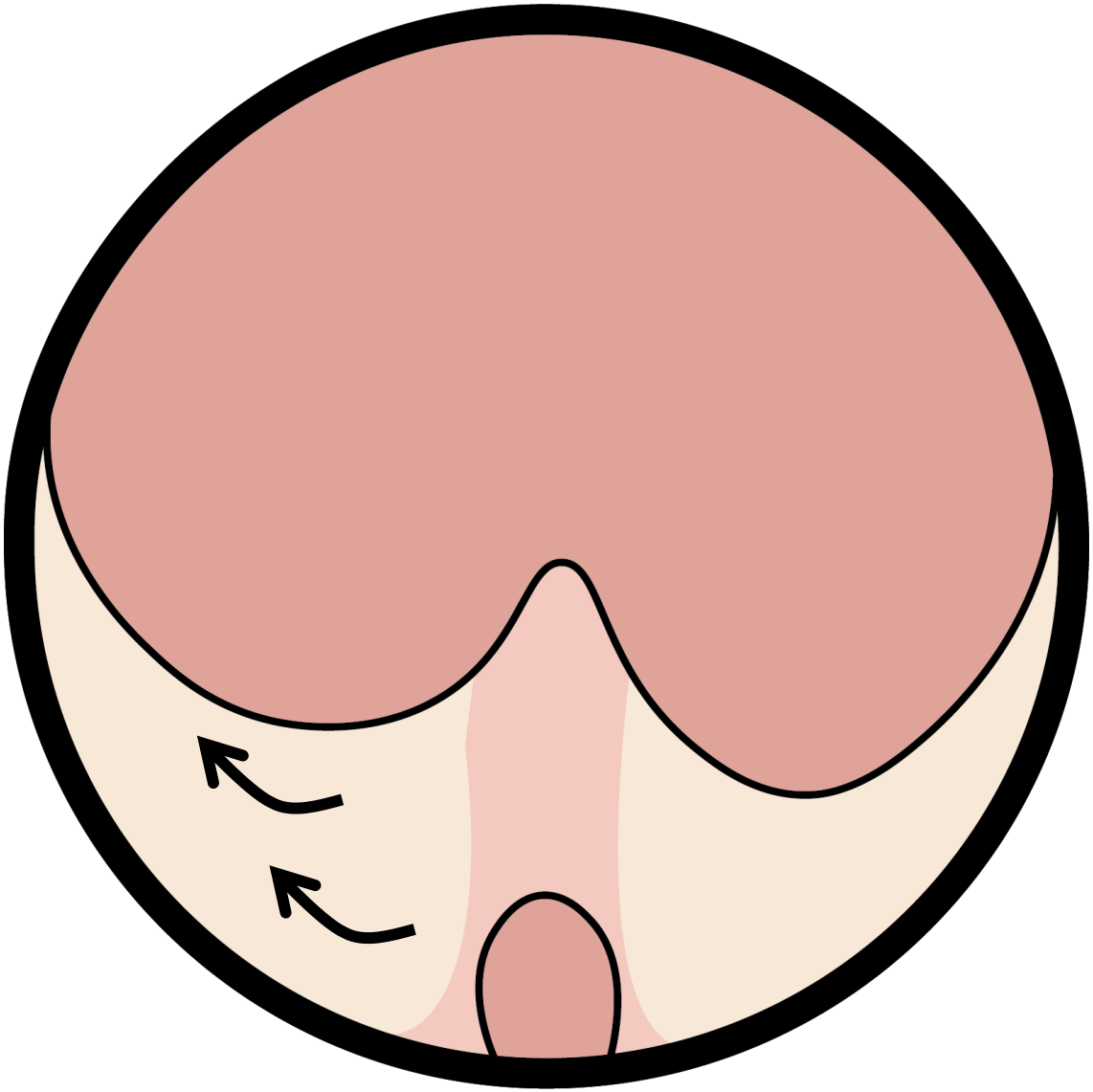

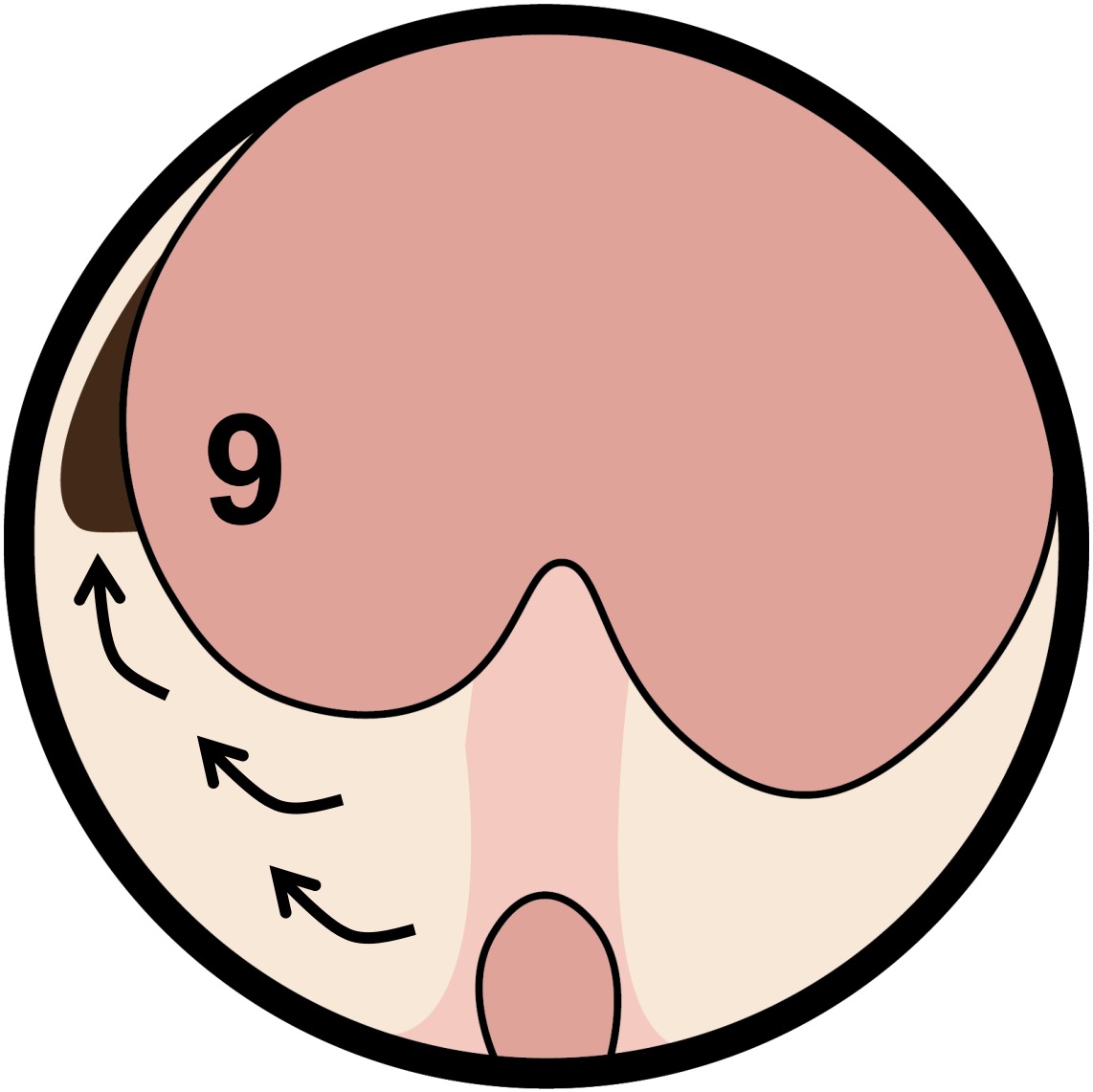
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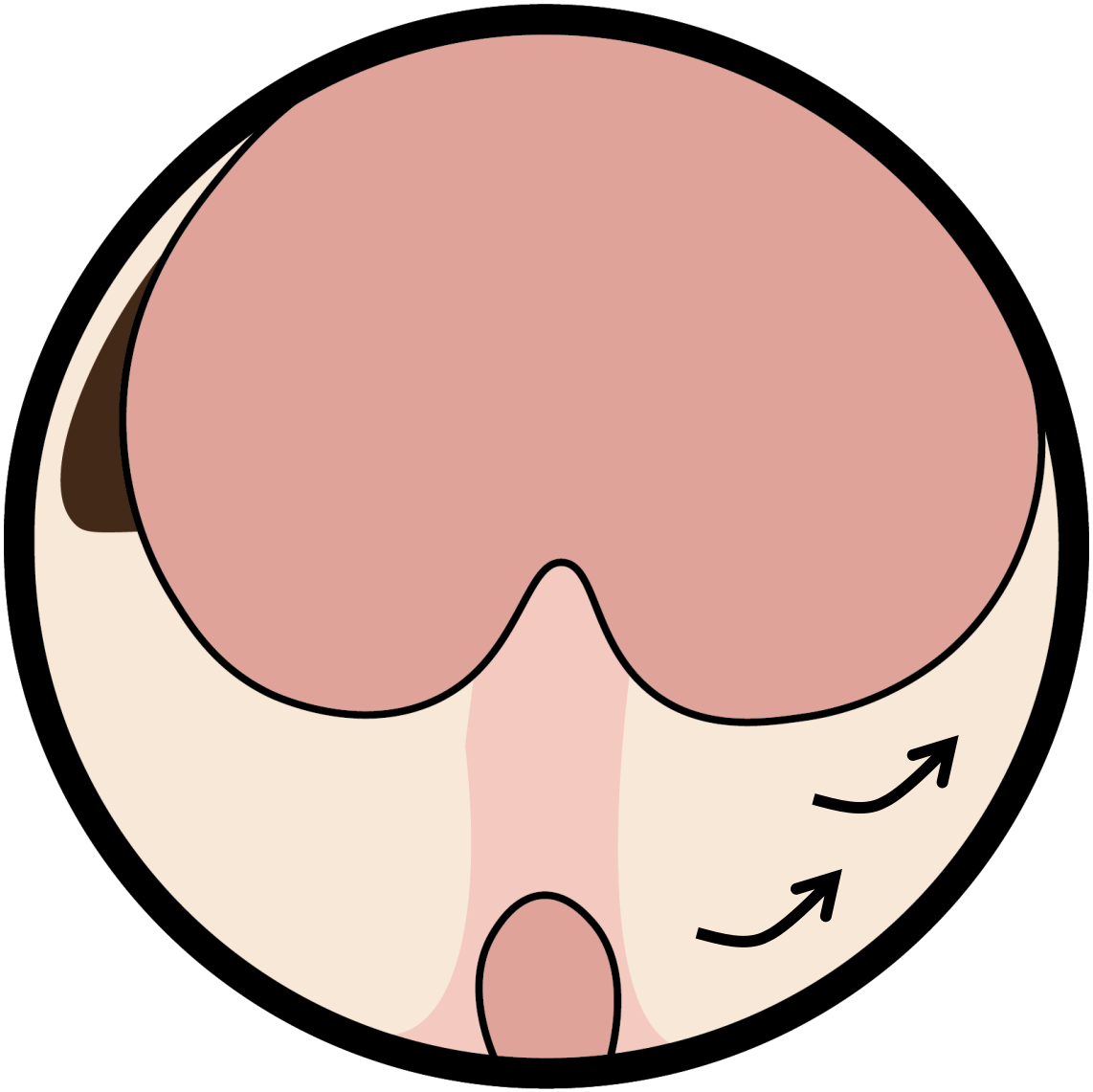

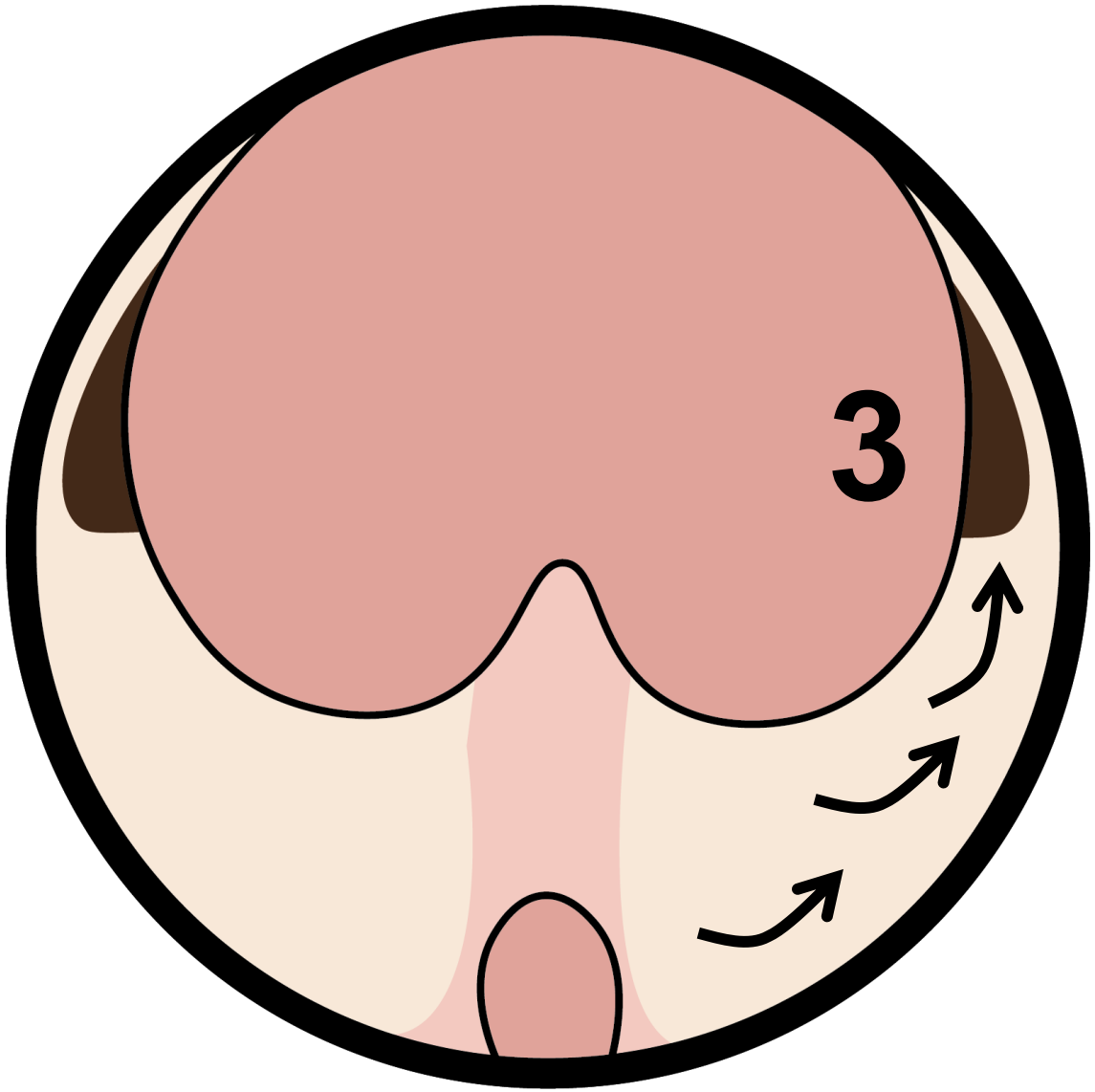
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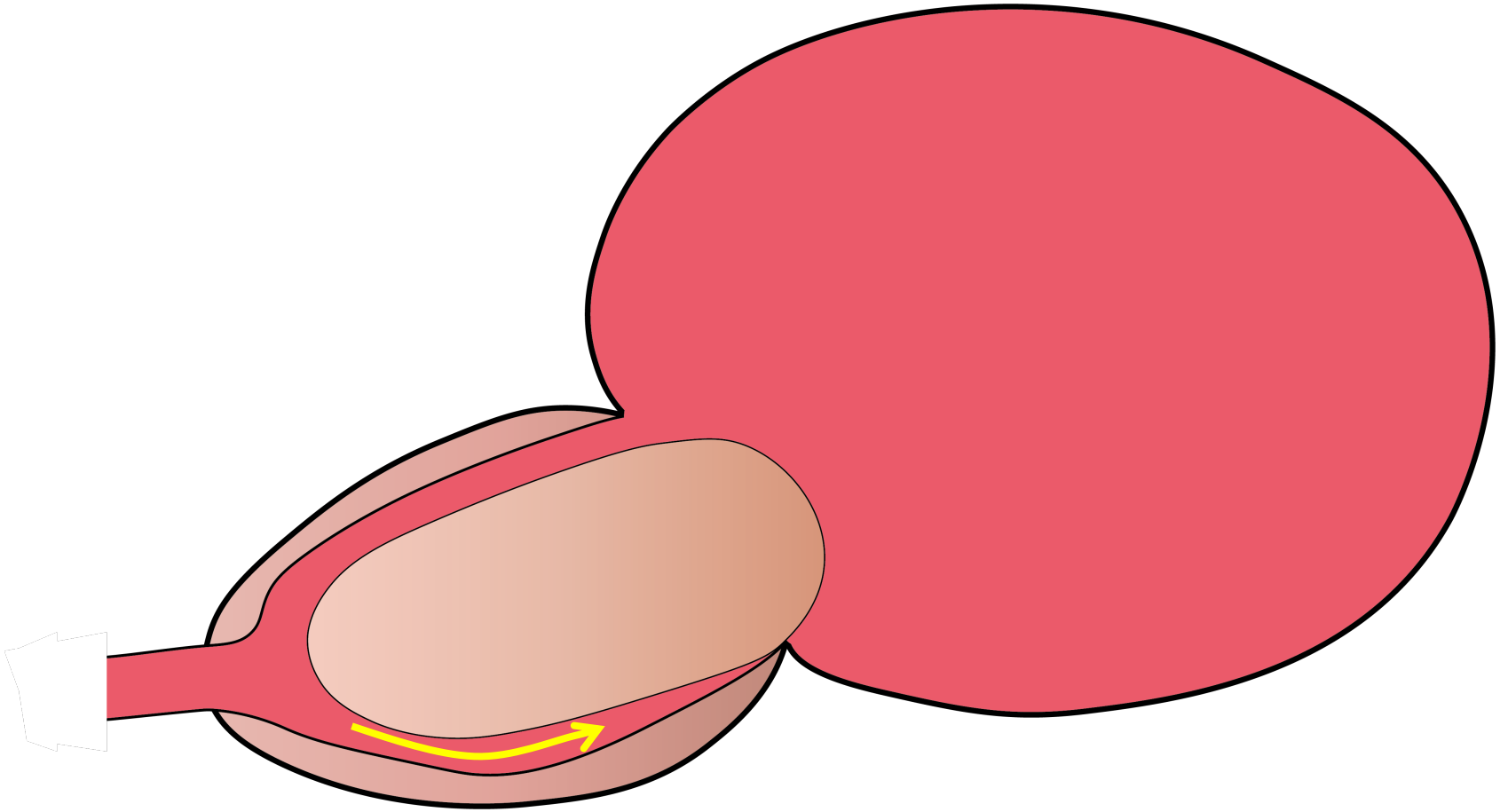
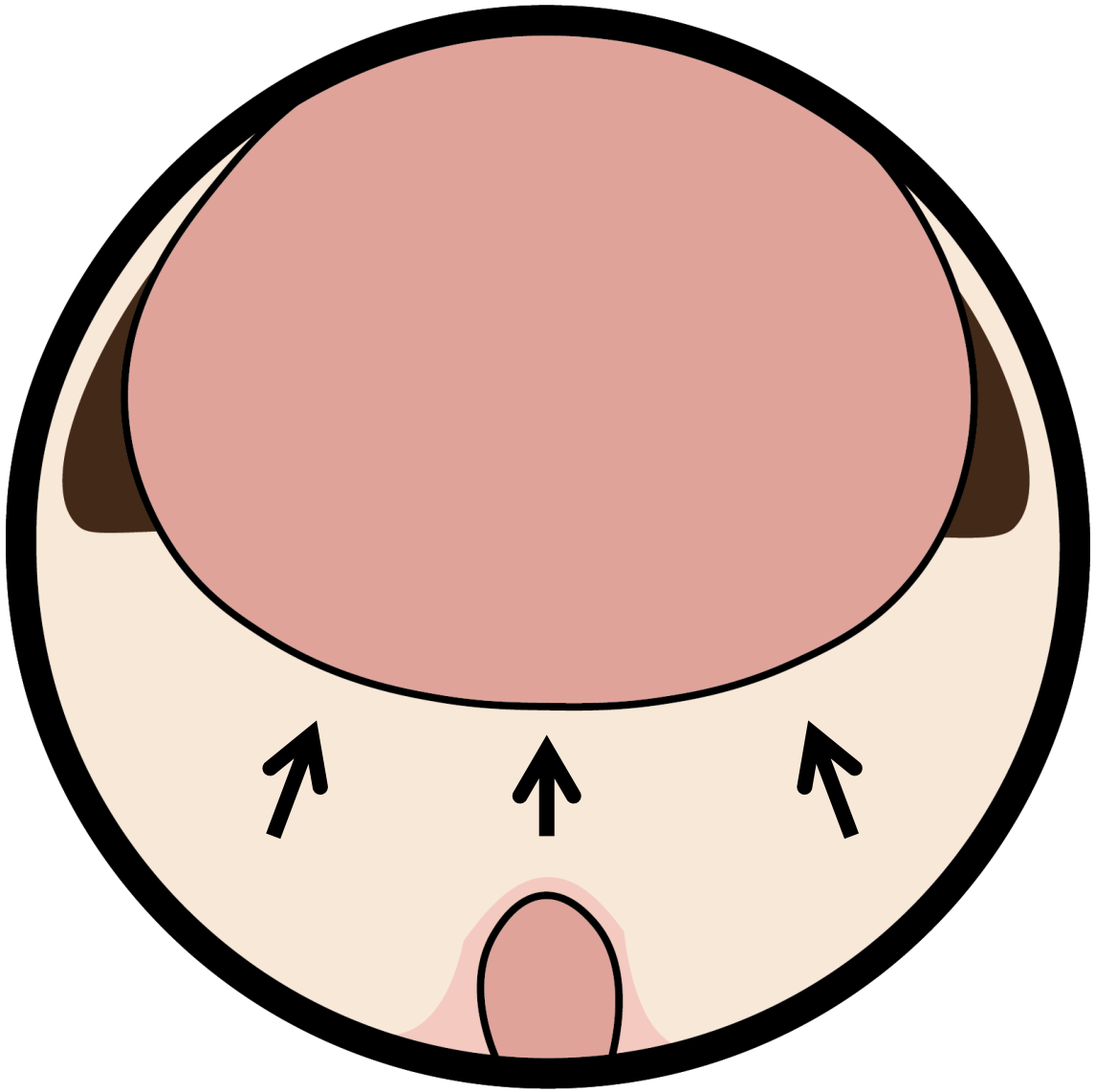
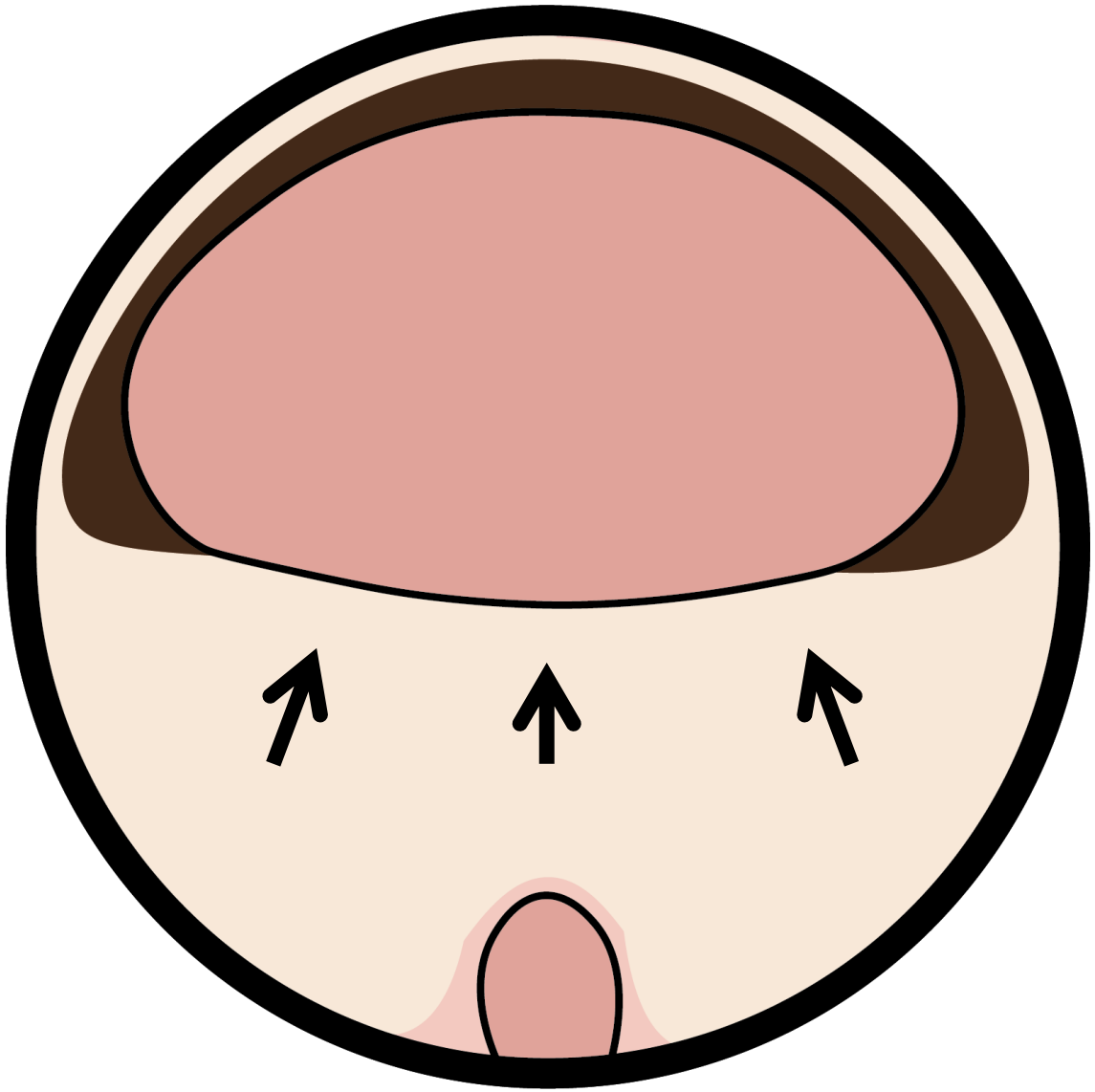
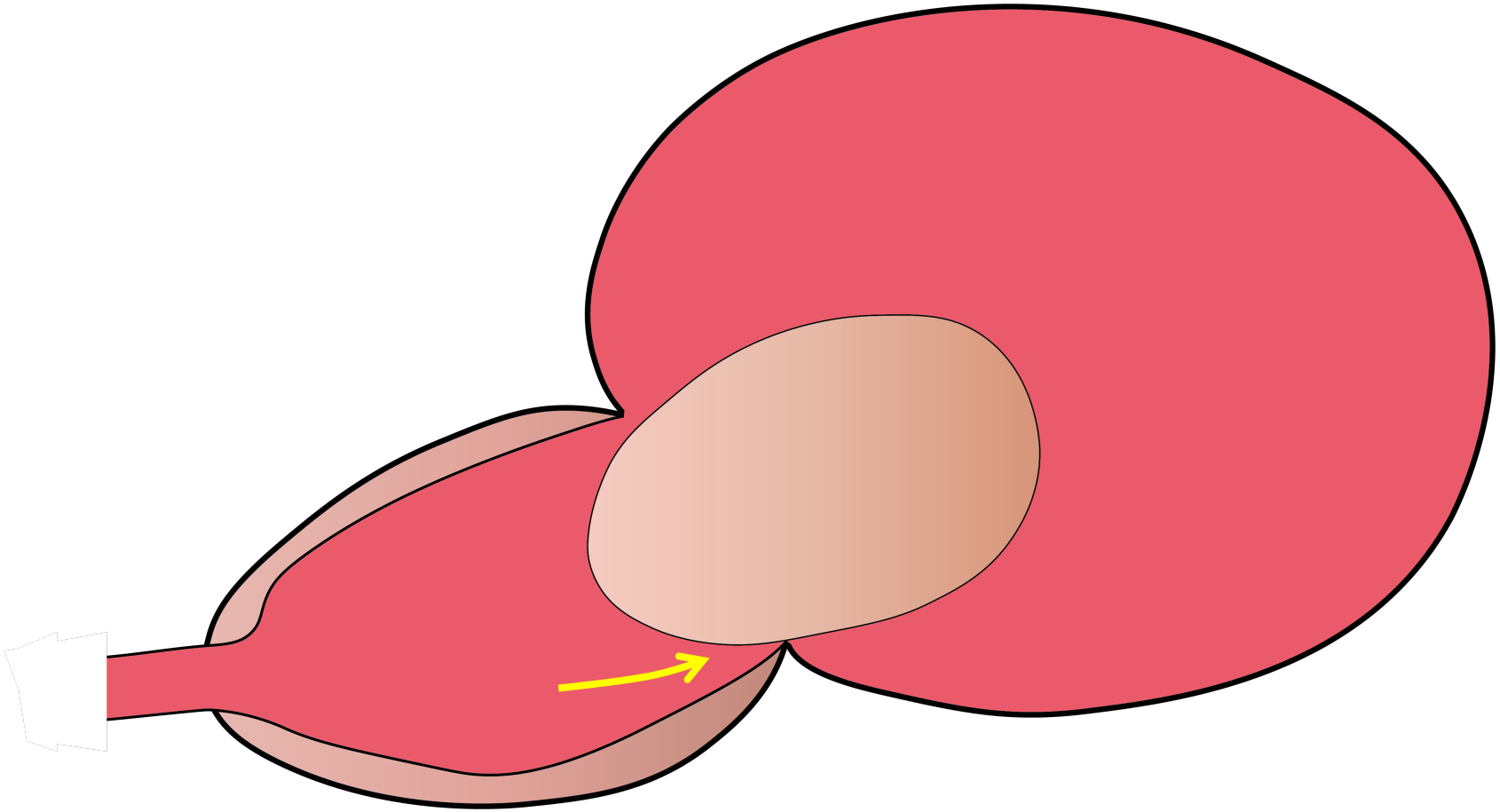
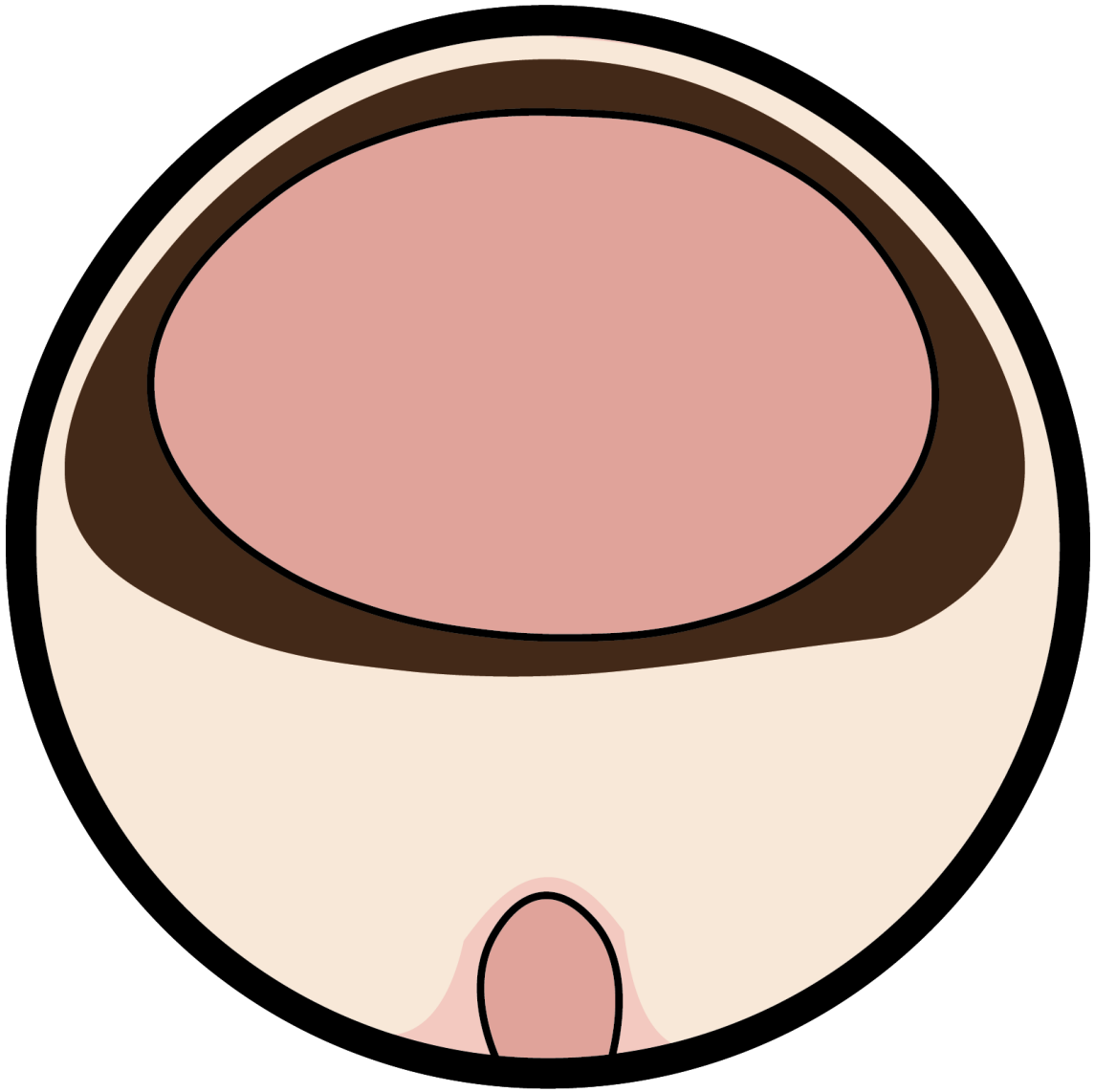
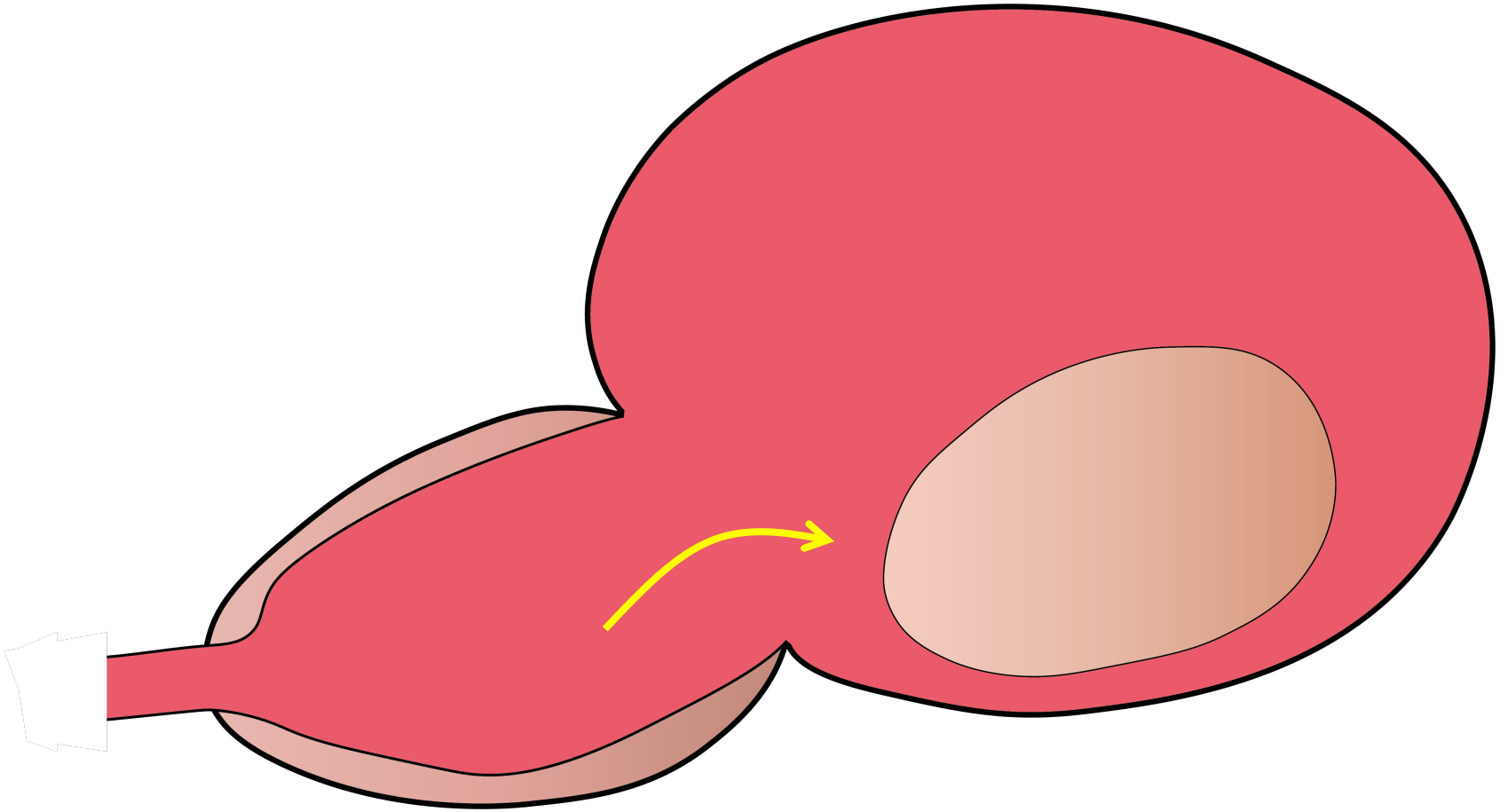


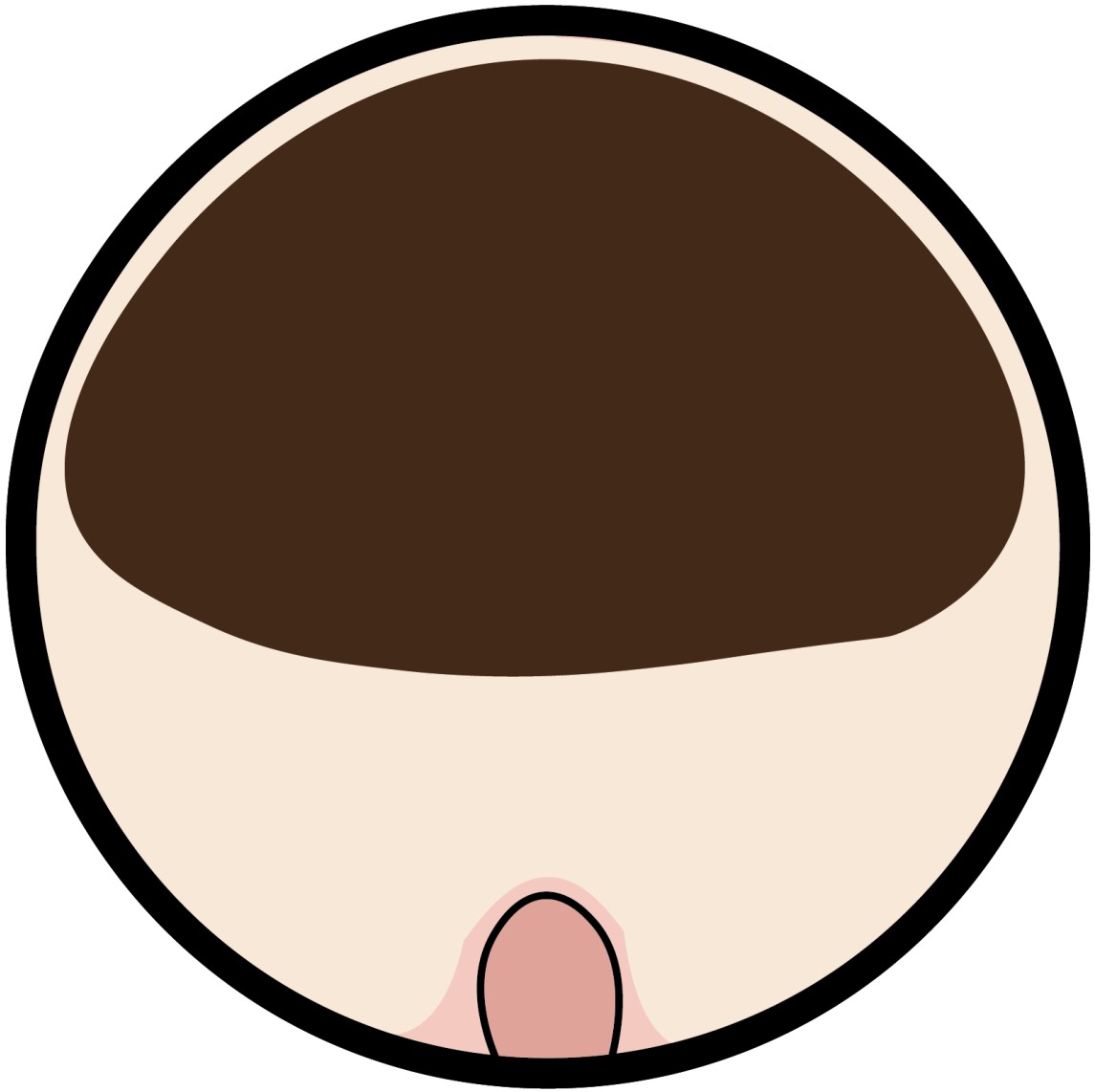












Le tecniche enucleative faticano a diffondersi

perchè

- Procedure complesse
- Problema di formazione
- Lunga curva di apprendimento
- Timore delle complicanze
- Disponibilità strumentazione
- Costi

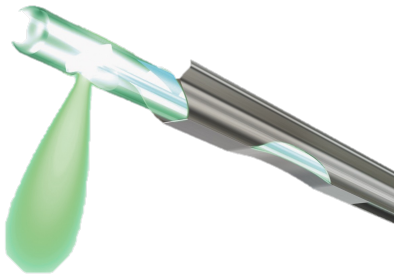
COME INIZIARE…

- Strumentario
- Versatilità del Green Laser
- Tecnica
- Selezione del paziente
- Equipe
- Tutoraggio
- Apprendimento in coppia
- Densità interventi
- Piano B

Learn how to…

GreenLEP FOR DUMMIES®

GreenLight™ Laser Therapy



Tips and tricks by
Dr. Francesco Varvello
Urologist at
Michele e Pietro Ferrero Hospital
Verduno, Italy

COME INIZIARE…

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TECNICHE A COMPLESSITA' PROGRESSIVA

- PVP
- PVP anatomica
- Enucleazione esclusiva terzo lobo
- Enucleazione a lobi separati
- Enucleazione en-bloc modificata
- Enucleazione en-bloc

COME INIZIARE…

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RISPETTO DEI LANDMARKS
- Sfintere
- Collicolo seminale
- Cresta uretrale
- Collo vescicale

SEGUIRE SEMPRE LA CAPSULA
- riconoscere i piani
- sfruttare la punta della fibra per sondare il piano
- non vaporizzare
- effetto coagulo + spinta meccanica

CURARE L'EMOSTASI
- dopo ogni spinta meccanica
- prima della morcellazione

RISPETTARE LA SEQUENZA DELLE FASI DELLA PROCEDURA

COME INIZIARE…

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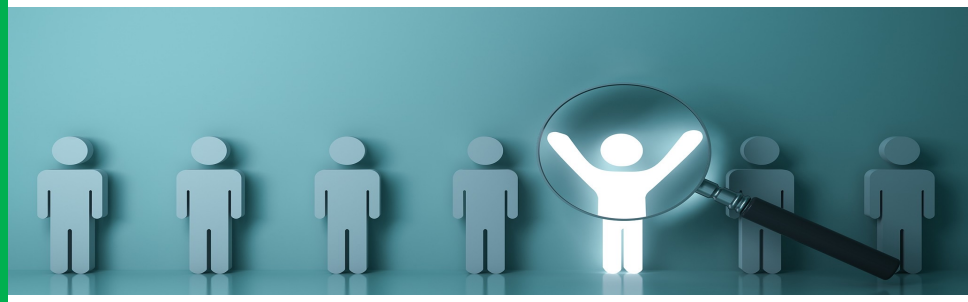

- Volume prostata 40-80 cc
- No storia di prostatiti
- No catetere a dimora
- No anticoagulanti
- No patologie urologiche associate
- No precedenti procedure per IPB

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…ASSISTENZA ALLA MORCELLAZIONE

- Sostituzione strumenti
- Monitoraggio irrigazione
- Switch vasi aspiratore
- Verifica malfunzionamenti
- ecc.

COME INIZIARE…

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Green Light TUTORS

COME INIZIARE…

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TWO IS MEGL CHE UAN!

COME INIZIARE…

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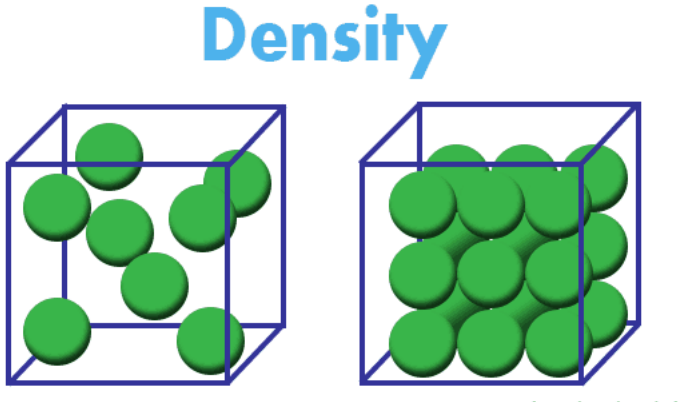

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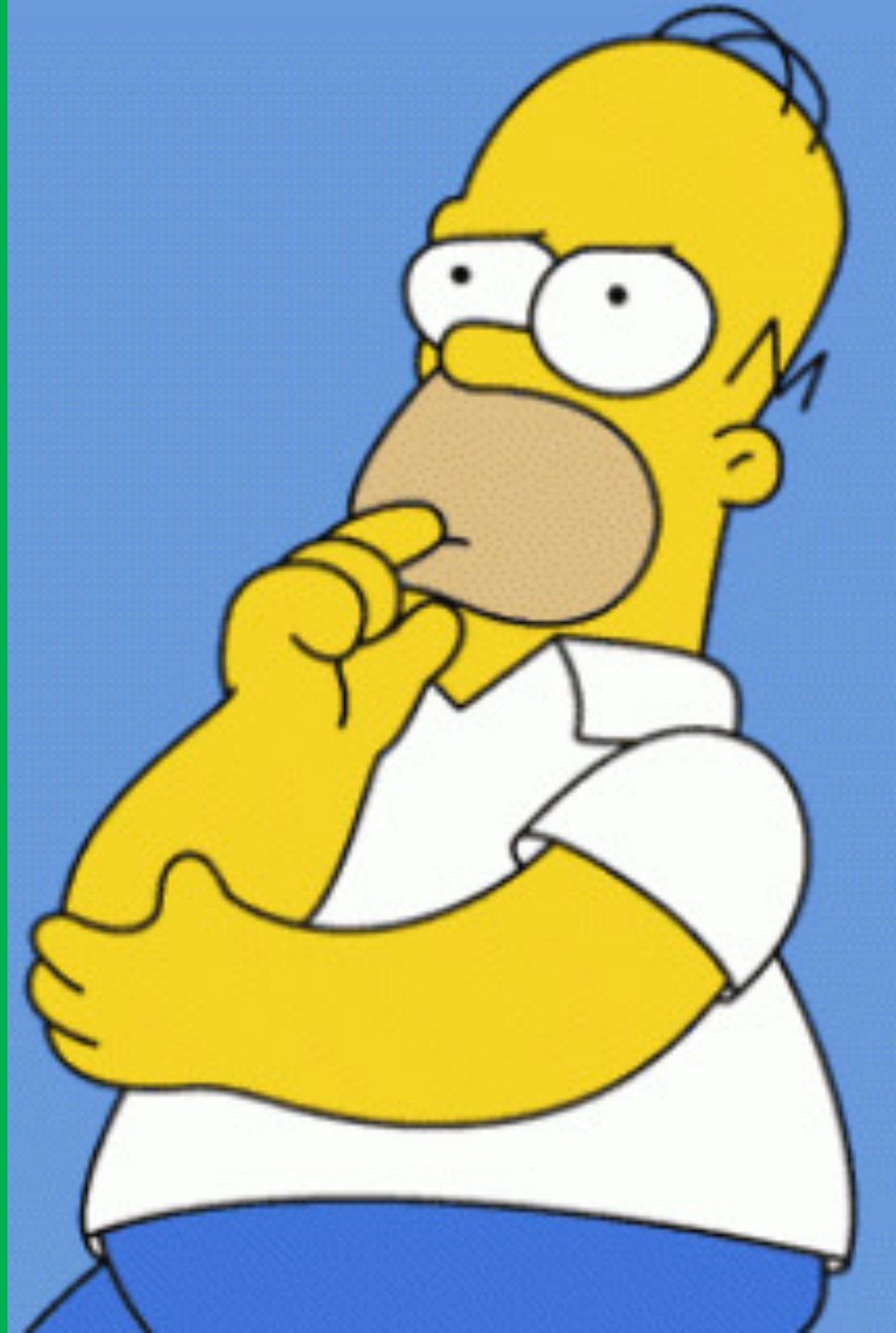
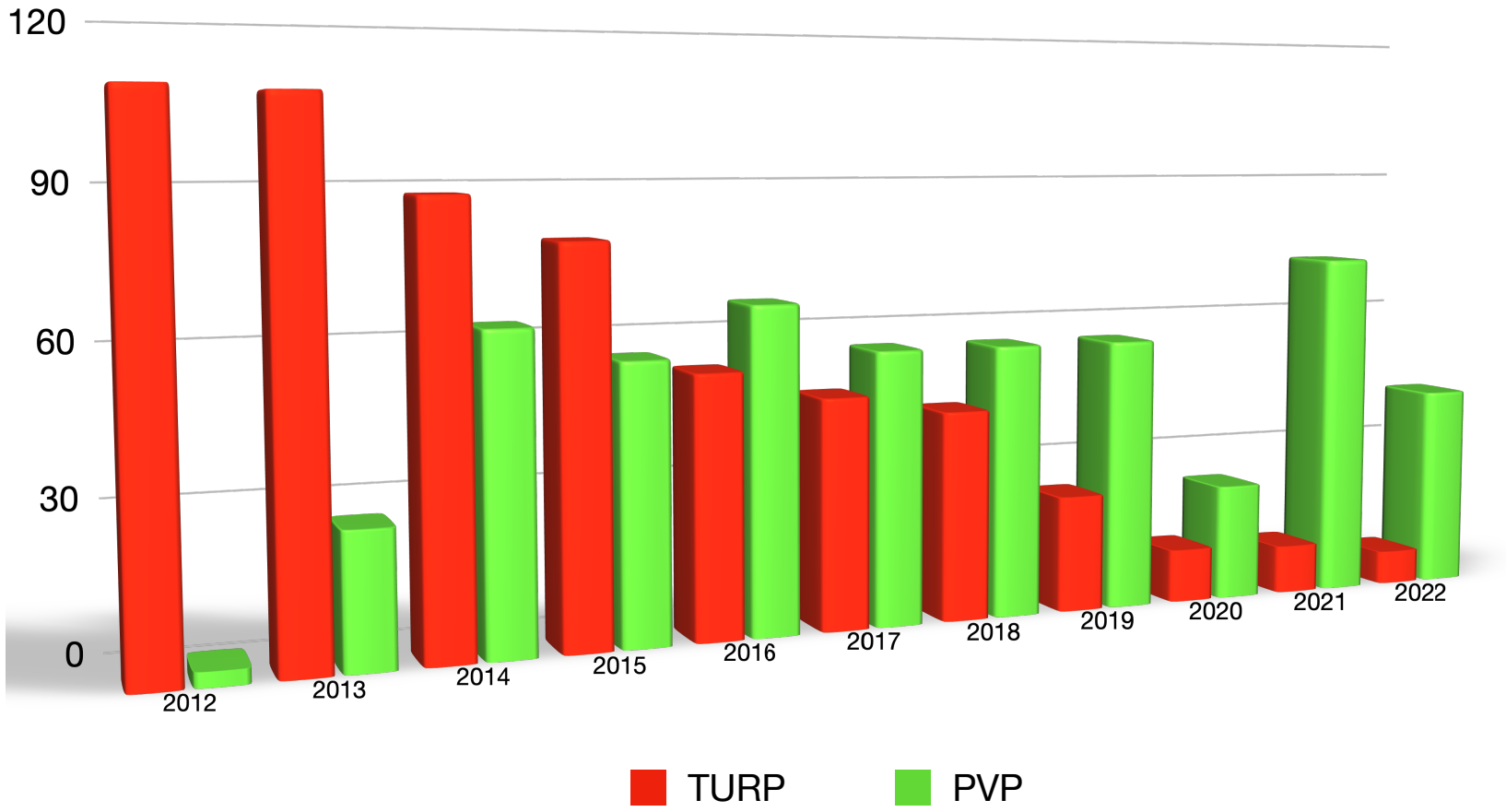


GREENLEP
LIBRARY
YouTube

La nostra esperienza

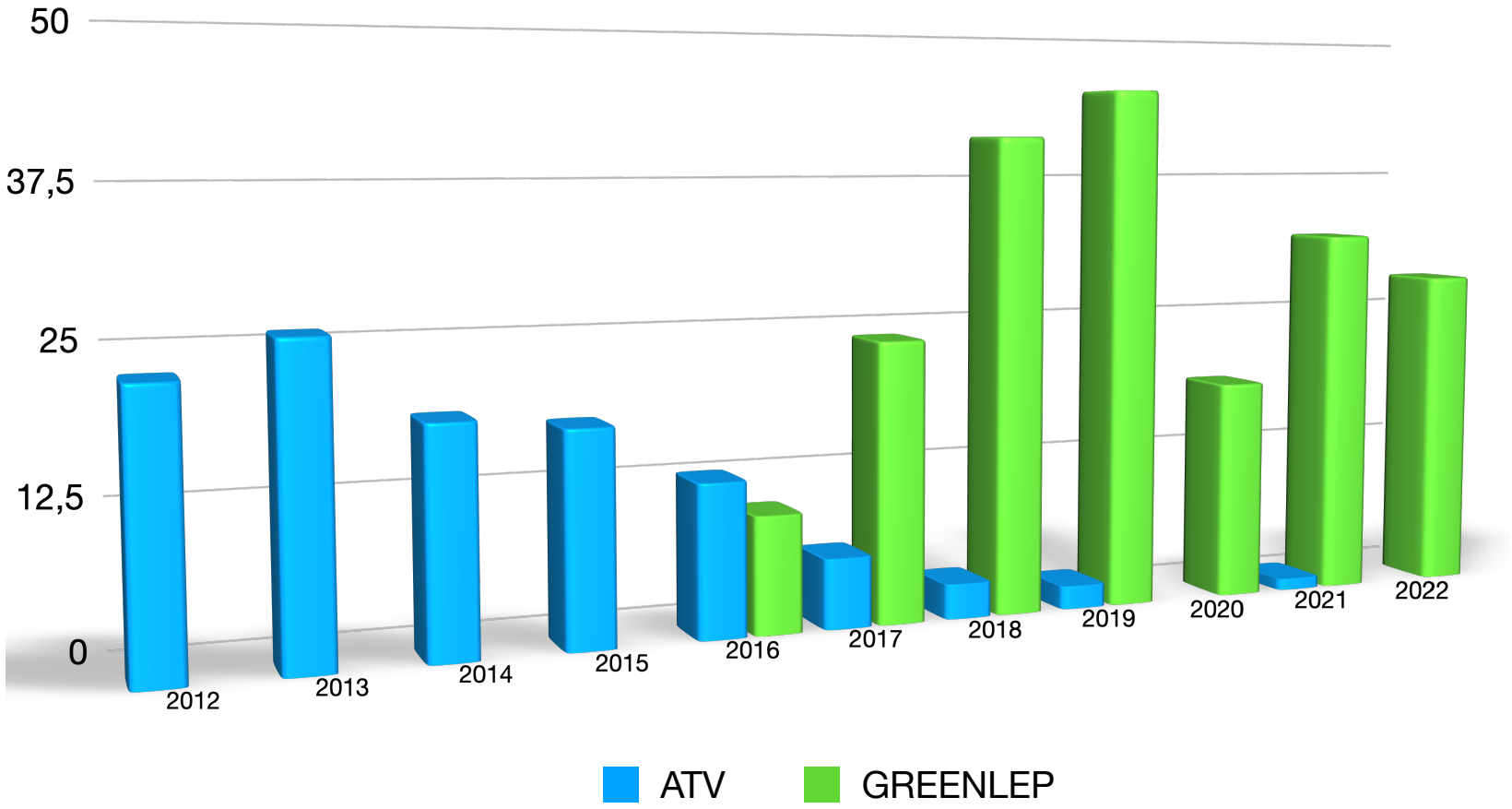
- 2012 – 2022
- 720 casi trattati
- PVP
- PVP anatomica
- GreenLEP

La nostra esperienza

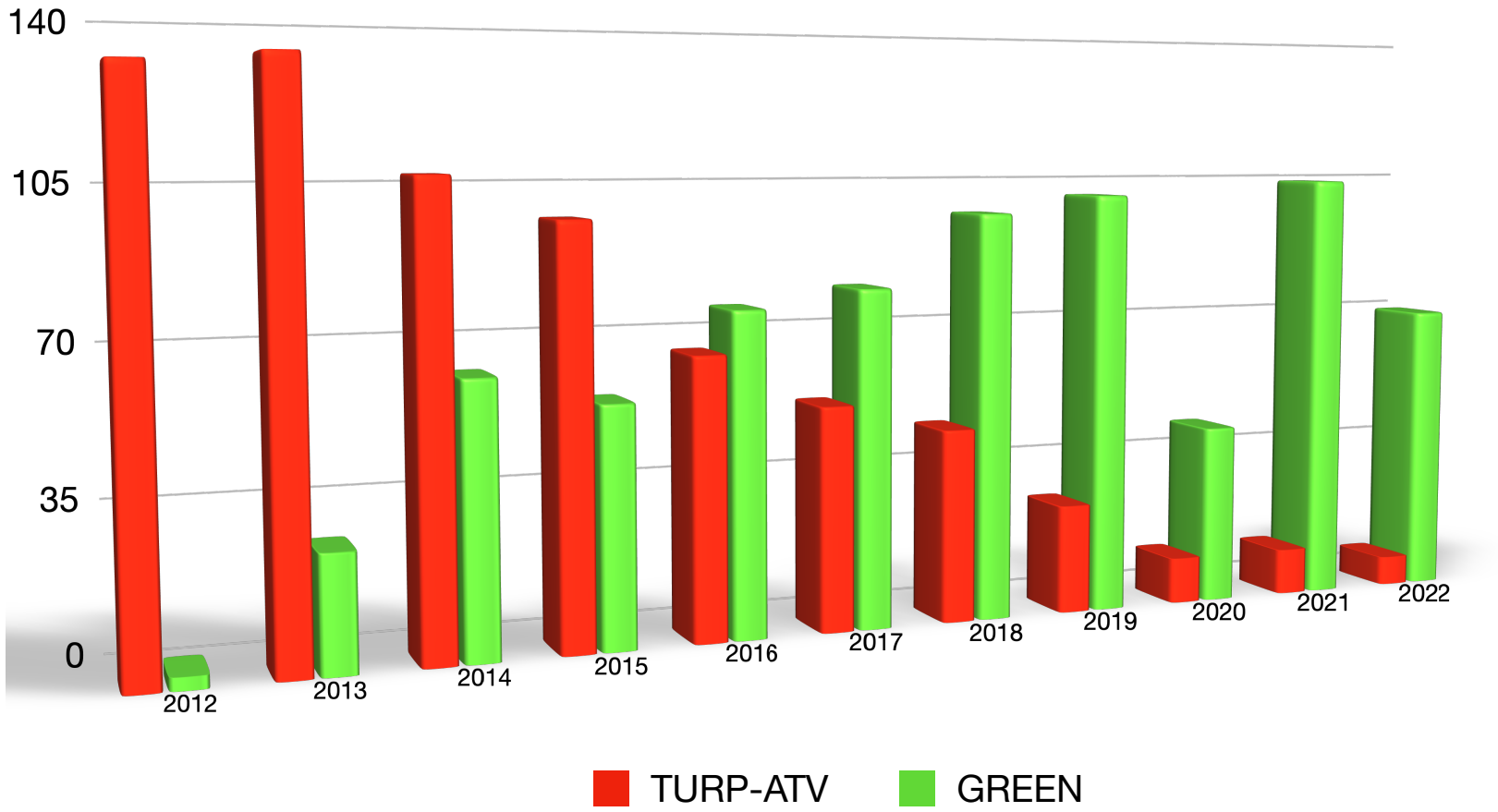


2016

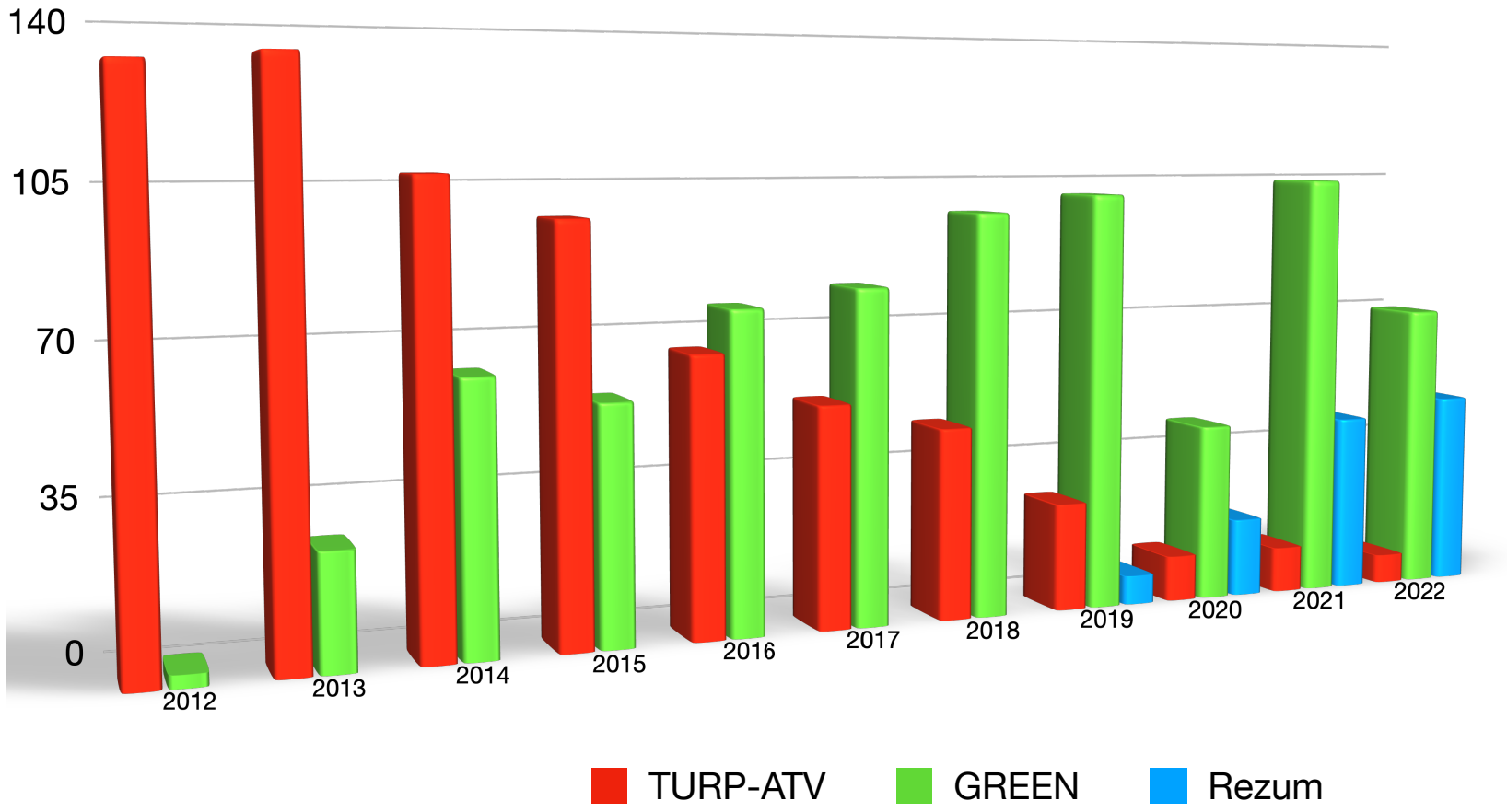
La nostra esperienza



La nostra esperienza



La nostra esperienza



VERSATILITA'

GreenLight™ Laser Therapy

VAPORIZZAZIONE

VAPORIZZAZIONE ANATOMICA

ENUCLEAZIONE

www.francescovarvello.it