Vesico-Ureteral Reflux: AUA – EAU Guidelines

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Introduction

Treatment

Guidelines : so what?

Conclusions

Introduction

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INTRODUCTION

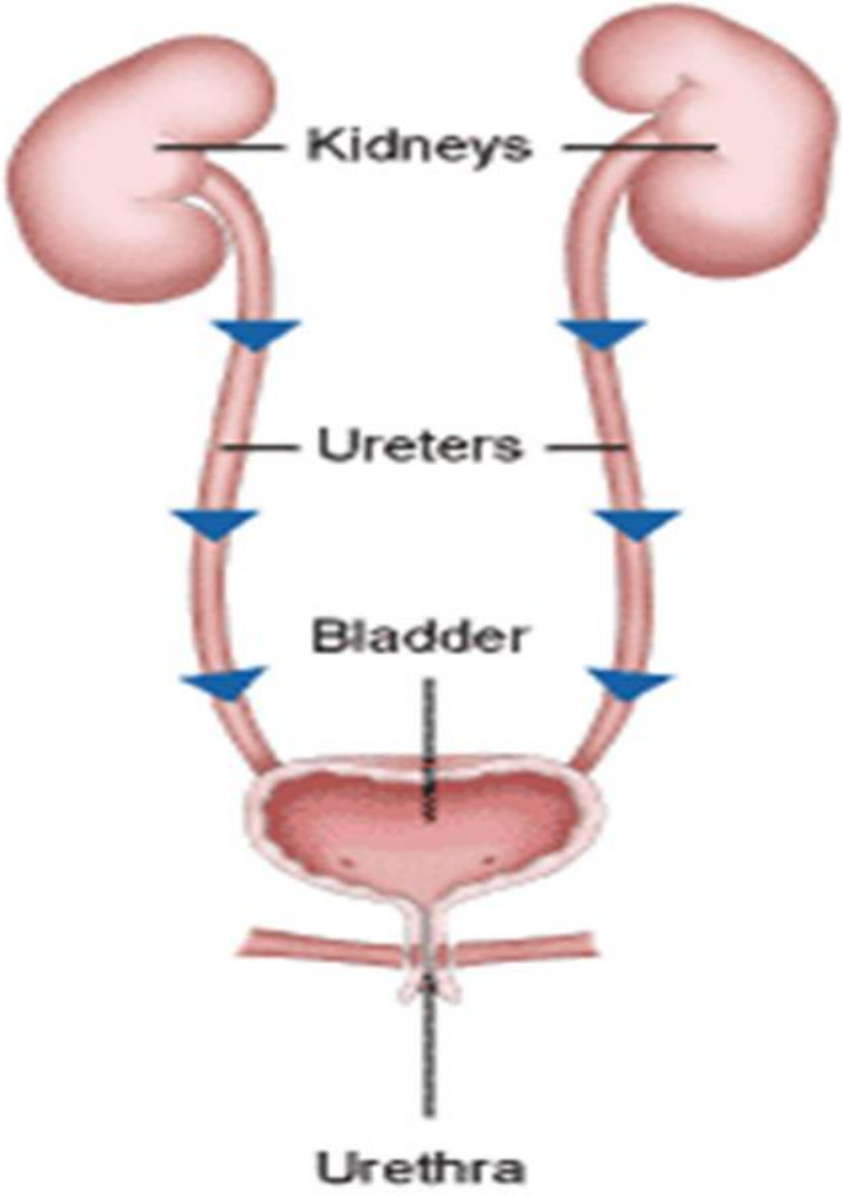
What is VUR **?**

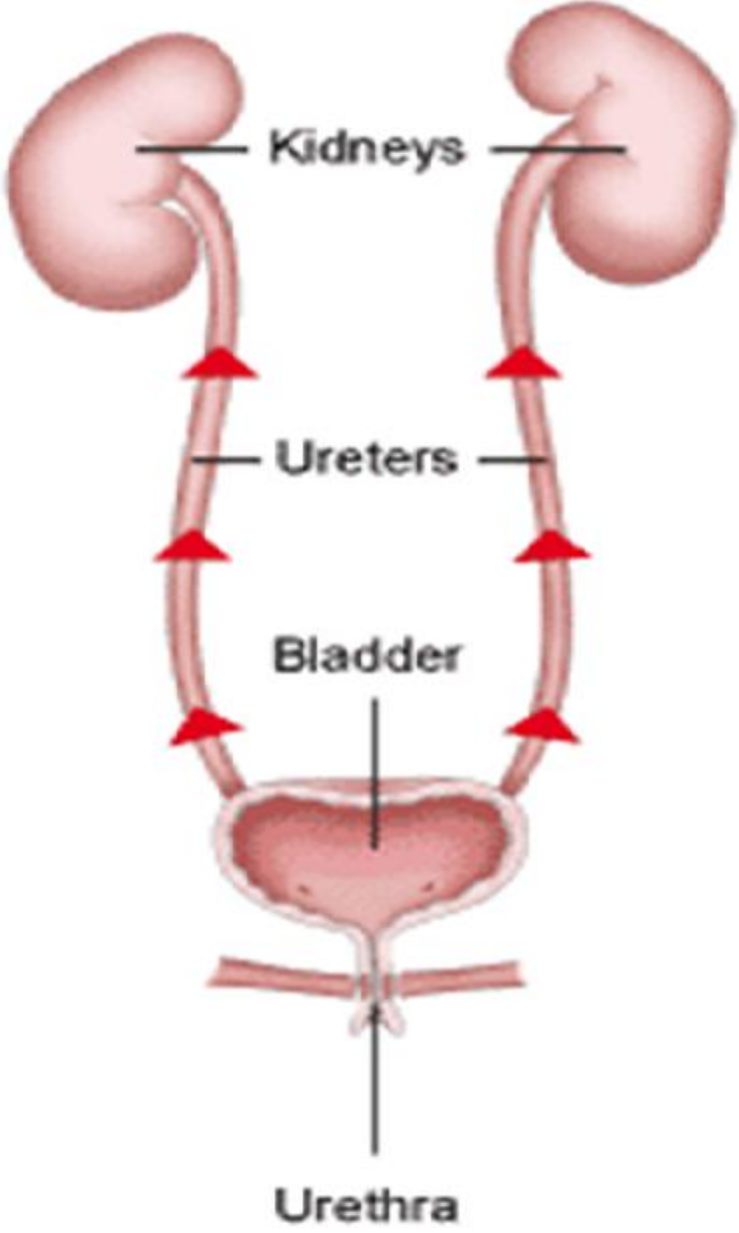
What is PRIMARY **VUR?**

What is SECONDARY **VUR ?**

Why is VUR IMPORTANT ?

Why is VUR CHALLENGING?


Kidneys
Ureters
Bladder
Urethra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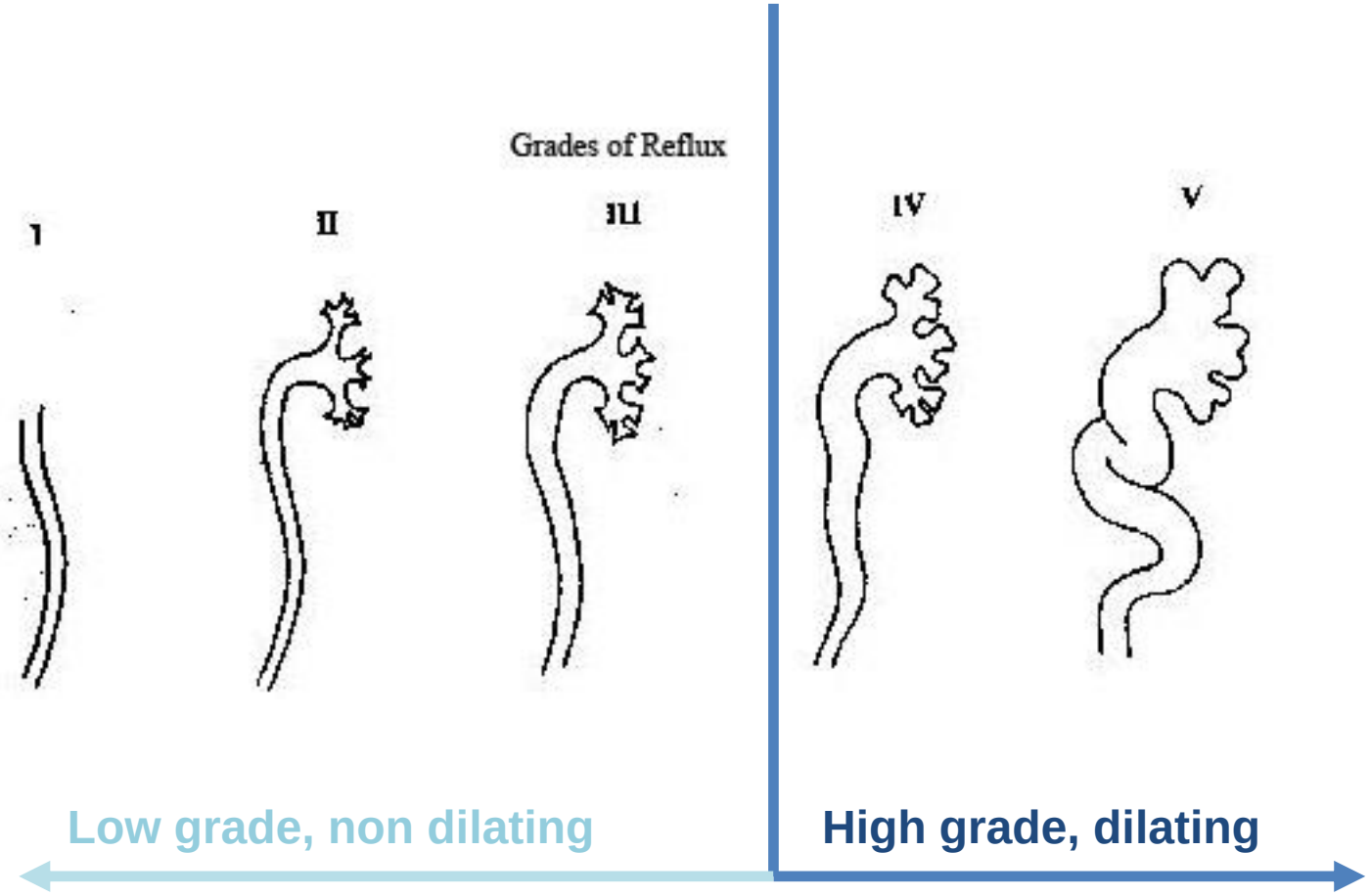
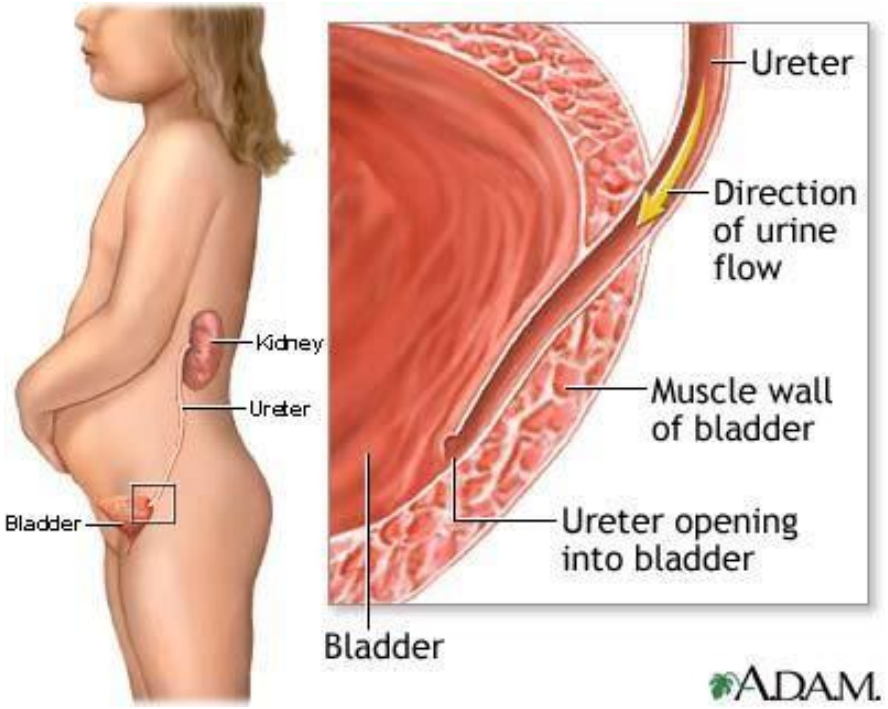
What is VUR ?


Grades of Reflux
I
II
III
IV
V
Low grade, non dilating
High grade, dilating

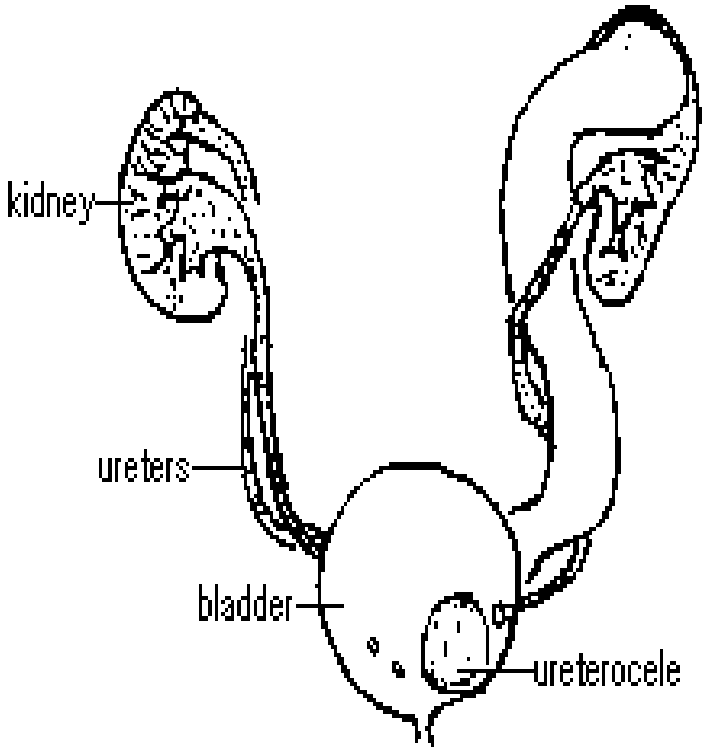
What is VUR ?

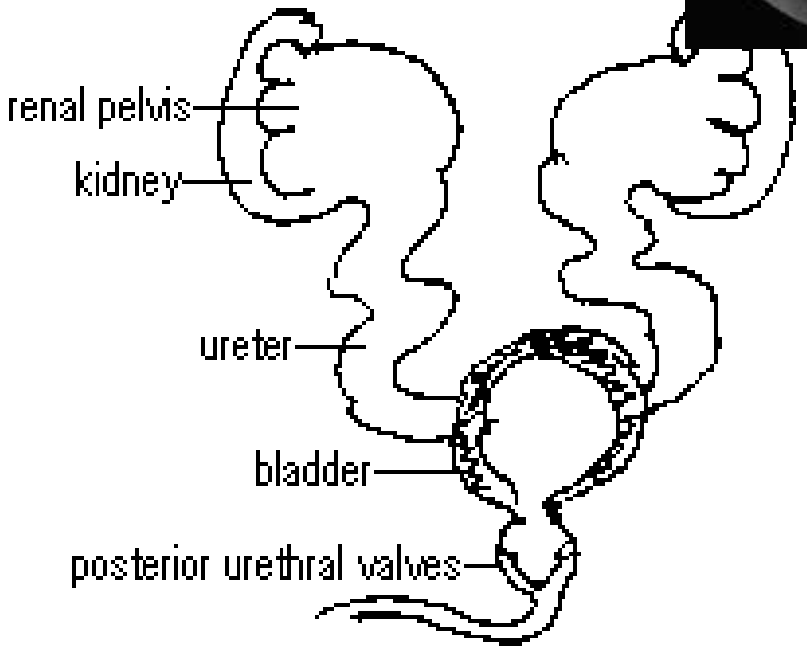
Absence of

- increased bladder pressure
- Ureteral
- Bladder
- Urethral anomalies.



What is a PRIMARY VUR ?





What is a SECONDARY VUR ?

3 % children : UTI each year

UTI: MOST COMMON bacterial disease during the FIRST 3 MONTHS

30 % of children with UTI HAVE VUR.

~1-2 % of children have VUR.

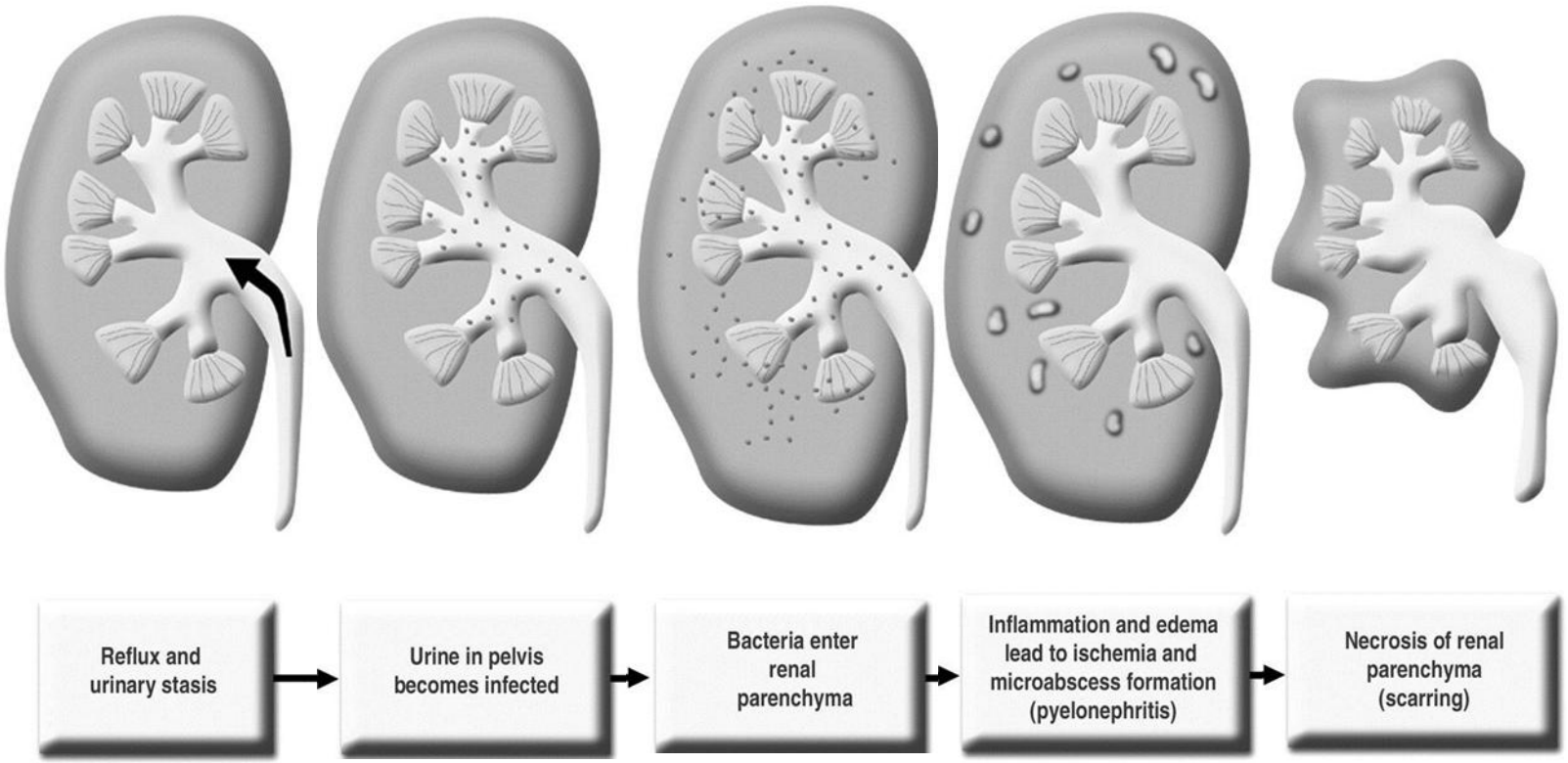
Prevalence of VUR ≈ 1/AGE

Some VUR patients develop CHRONIC KIDNEY DAMAGE.

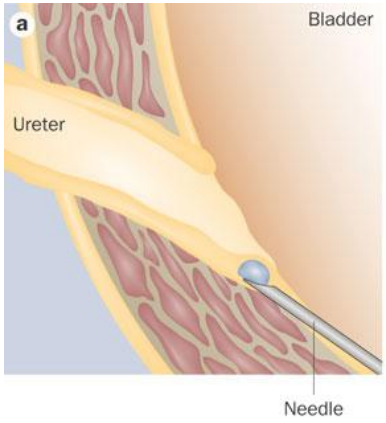
- 5-10% of Pediatric ESRD is due to Reflux Nephropathy

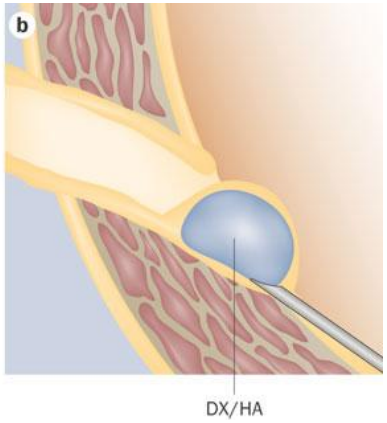
Why is VUR important ?

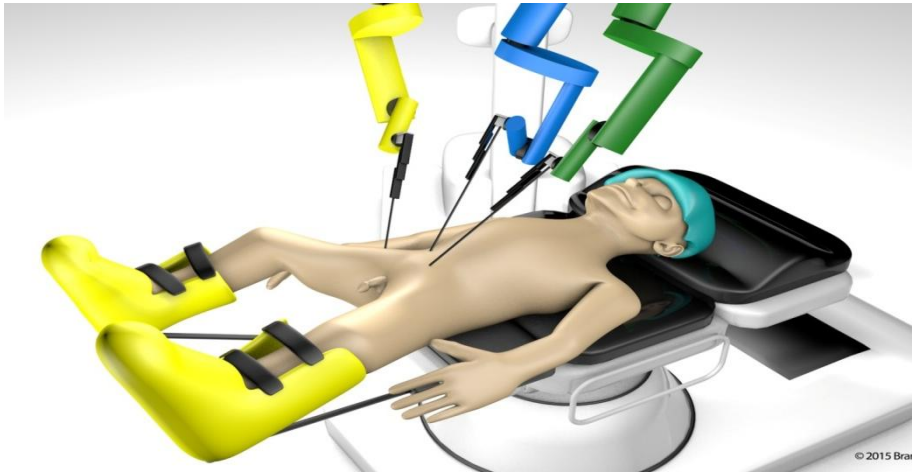
Reflux ➔ Infection ➔ Scar formation



Why is VUR important ?







Why is VUR challenging ?

From Journal Watch > Journal Watch Pediatrics and Adolescent Medicine

New, Controversial Guidelines From the U.K. for Children With UTI

Howard Bauchner, MD; F. Bruder Stapleton, MD

Authors and Disclosures

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Controversy abounds over UTI management.(Infectious Diseases)

By Diana Mahoney | Pediatric News - Nov, 2008

AUA 2011

2011 AUA Daily News

VUR guidelines offer conflicting recommendations

Why is VUR challenging ?

INTRODUCTION

TREATMENT

GUIDELINES : SO WHAT ?

CONCLUSIONS

TREATMENT

GOALS?

Treatment VS no treatment ?

NO TREATMENT ?

TREATMENT ? Endoscopic ?

VUR ➔ UTI + Scar formation,
goals of VUR treatment :

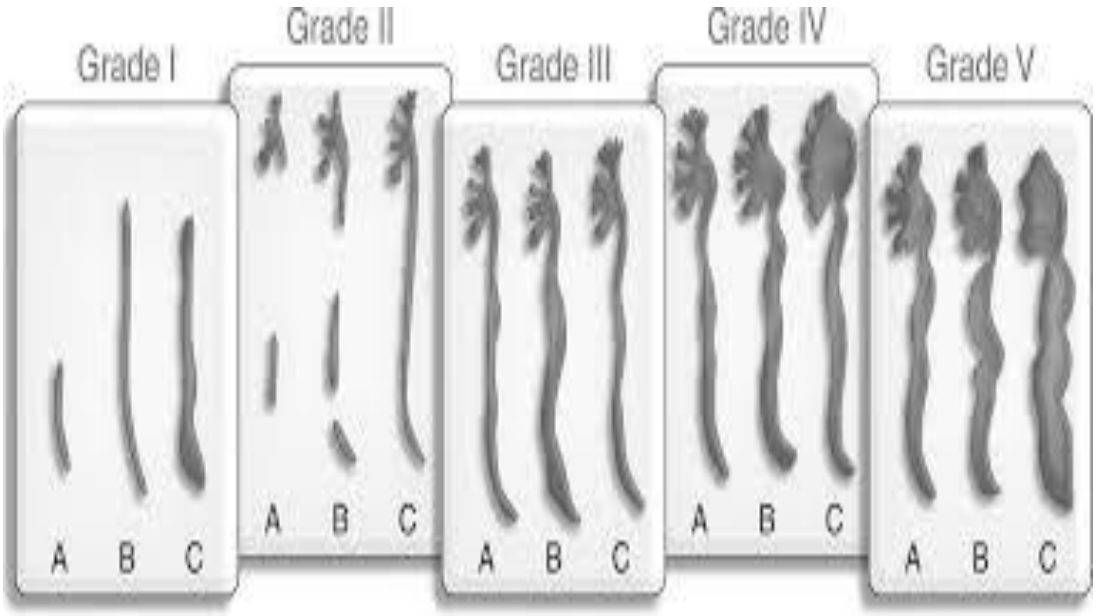
1. Prevent KIDNEY INFECTIONS

2. Prevent SCAR FORMATION

Goals of treatment ?

Low VUR grades : spontaneous reolution

➔ Need to pick those refluxes which will not evolve spontaneously



Treatment VS no Treatment?

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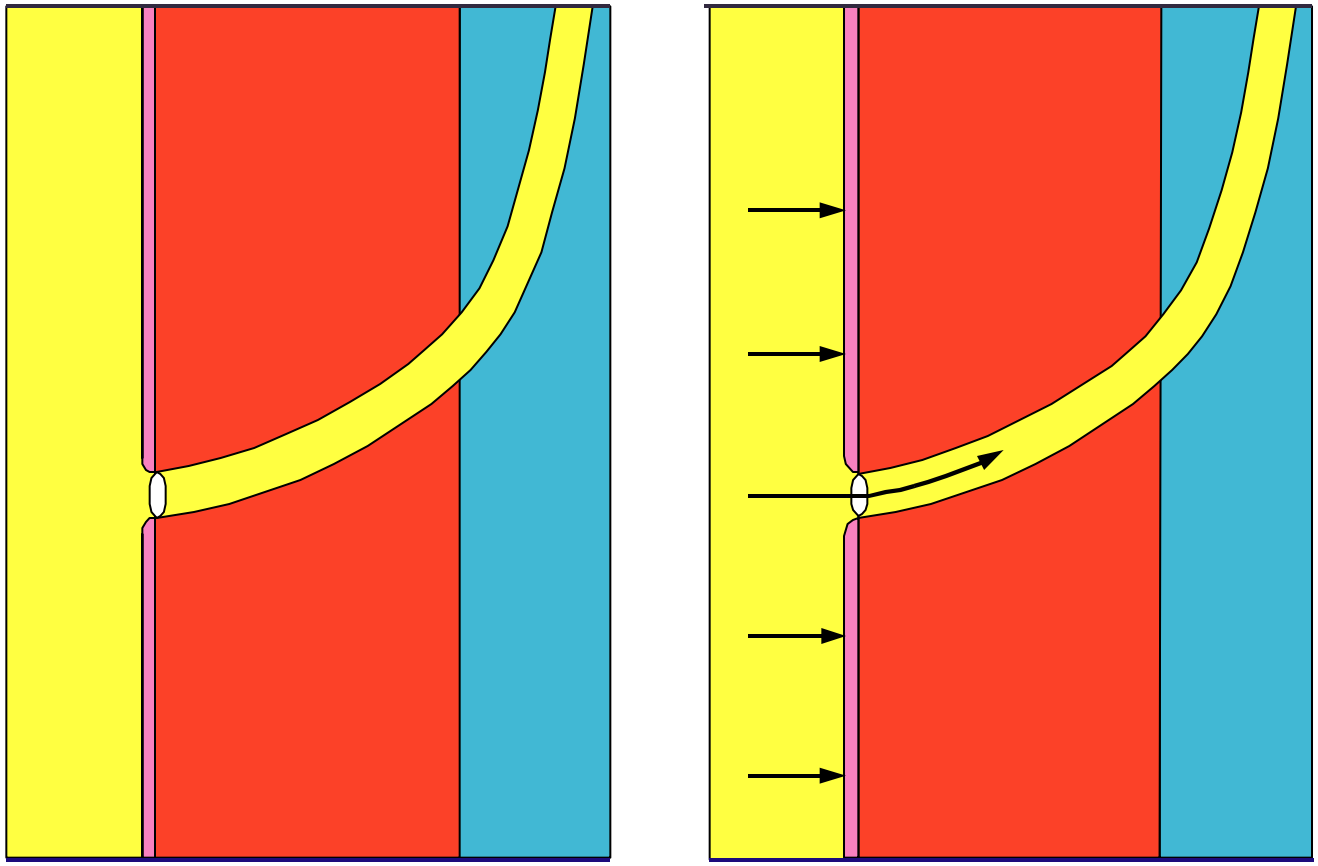
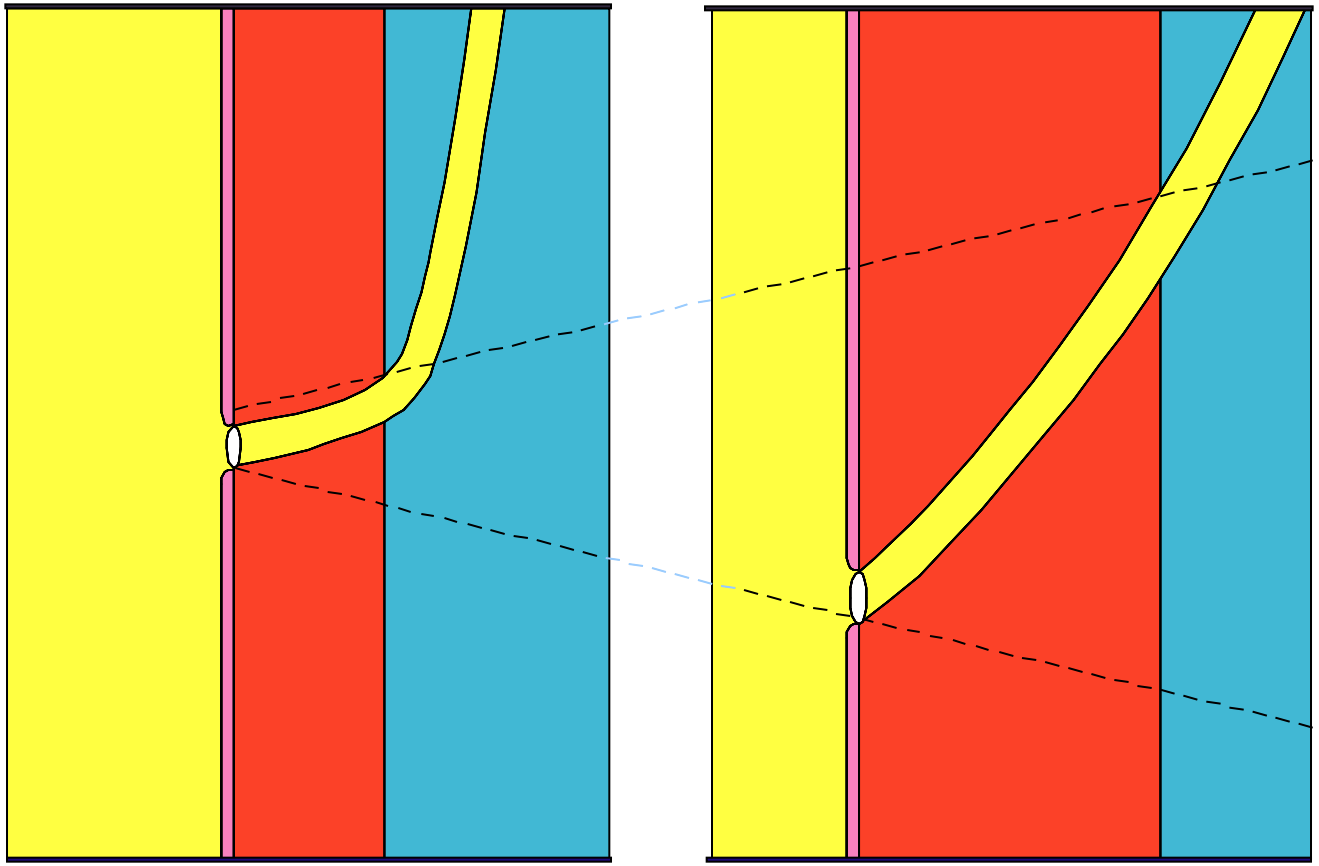


Treatment VS no Treatment?

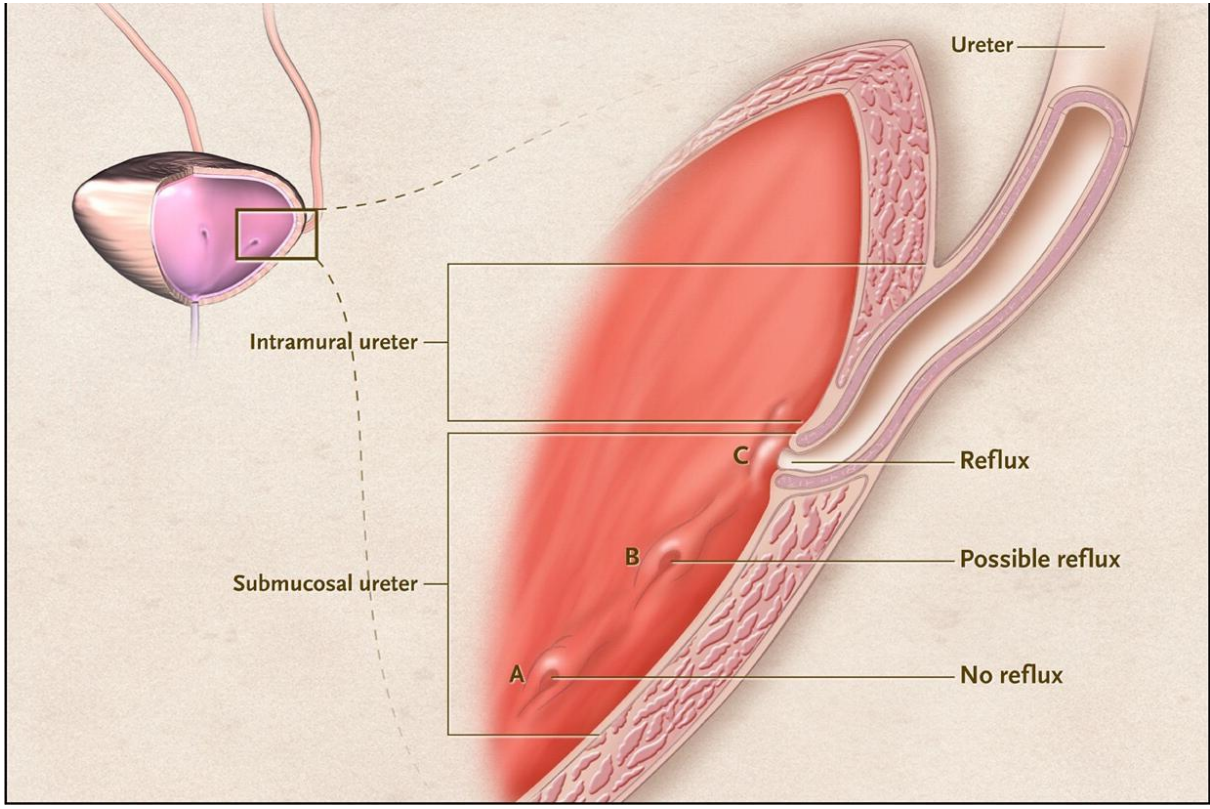


Antibiotic profylaxis until resolution acquired

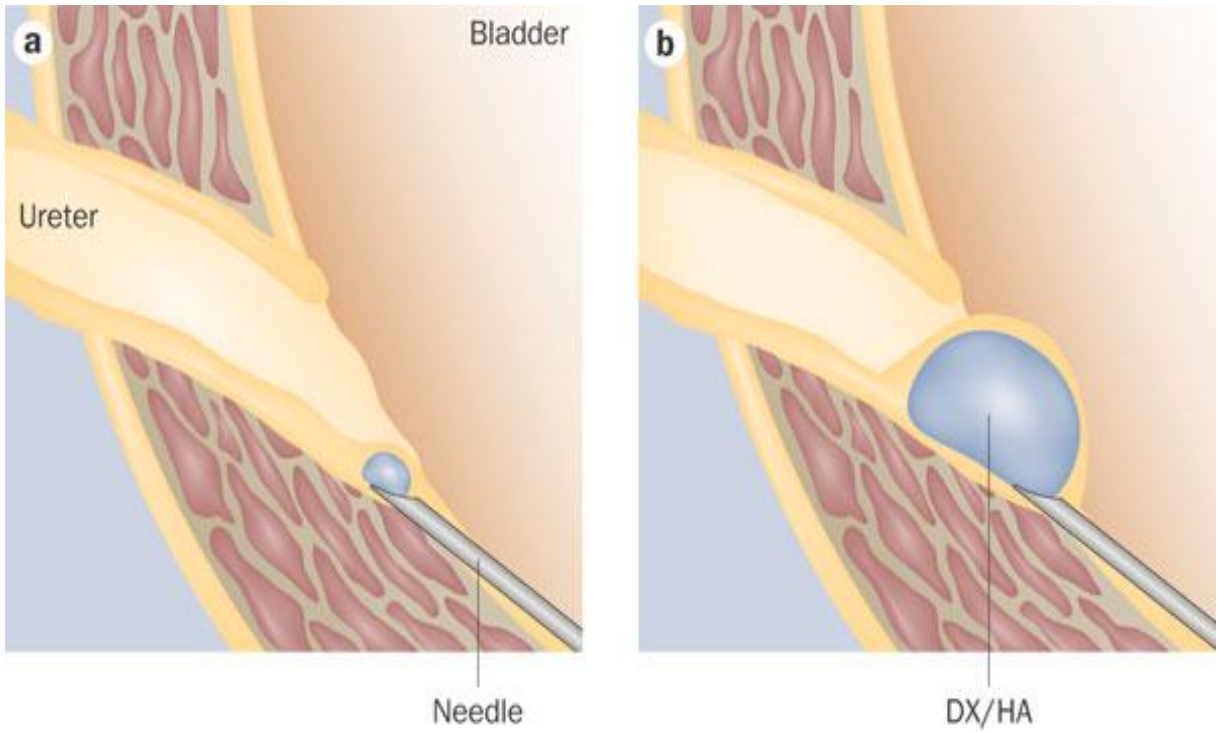
Urinary prophylaxis

Nitrofurantoine 2 mg/kg
Trimethoprim 2 mg/kg
(Norfloxacine 2 mg/kg)

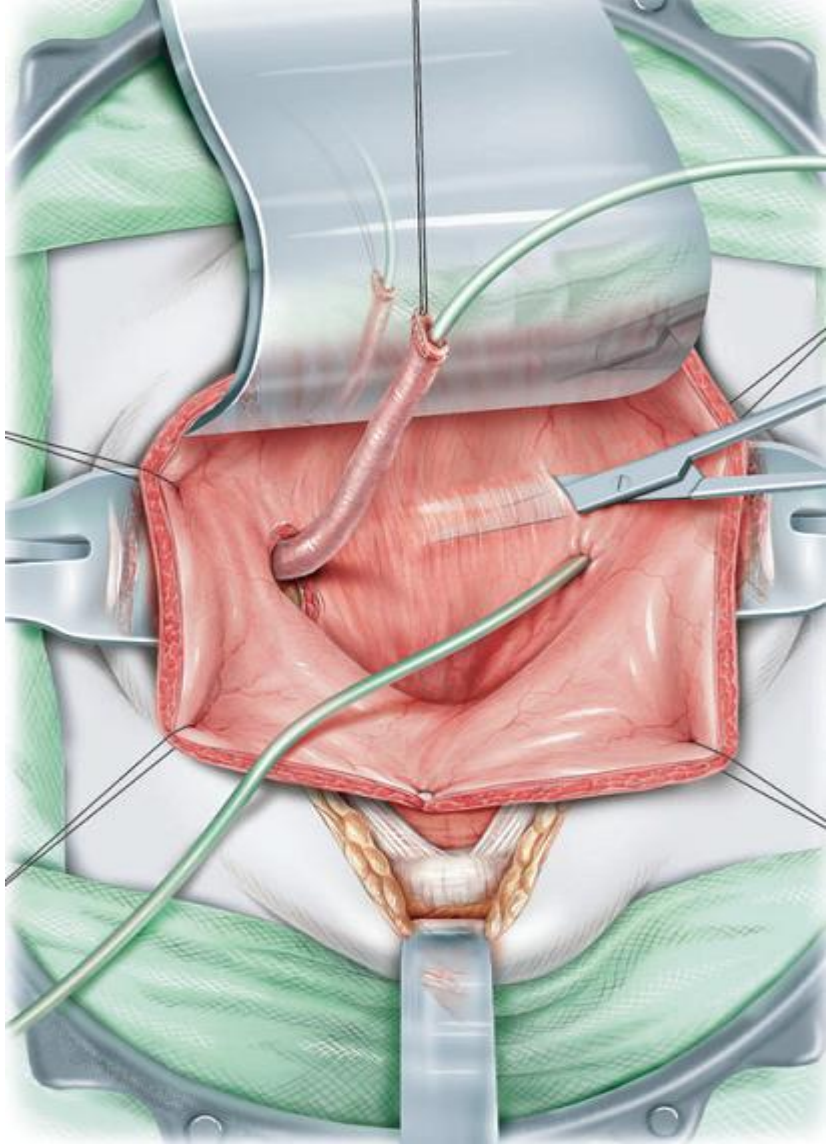
CYSTOGRAPHY CONTROL

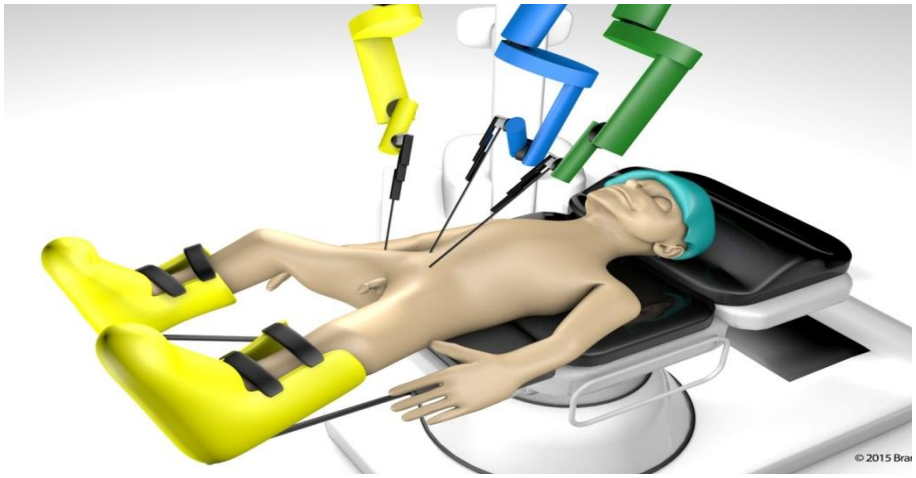


No treatment?



Treatment ?





Treatment ?

VUR: To treat or not to treat ?

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GUIDELINES

AUA

EAU

NICE

VESICOURETERAL REFLUX

Download the unabridged version of this guideline [pdf]

TOPIC 1 – MANAGEMENT OF VESICOURETERAL REFLUX IN THE CHILD OVER ONE YEAR OF AGE

Index patient

The 4-year old patient with vesicoureteral reflux (VUR) and no clinical evidence of bladder/bowel dysfunction (BBD) who has presented initially with a febrile urinary tract infection (UTI) and a subsequent diagnosis of VUR by cystography.

TOPIC 2 – MANAGEMENT OF INFANTS LESS THAN ONE YEAR OF AGE WITH VESICOURETERAL REFLUX

Index patient

The infant less than one year of age who is diagnosed with primary vesicoureteral reflux (VUR) during the early postnatal period based on a diagnosis of prenatal hydronephrosis (PNH) or following the occurrence of a urinary tract infection (UTI).

TOPIC 3 – MANAGEMENT OF CHILDREN WITH VESICOURETERAL REFLUX AND BLADDER/BOWEL DYSFUNCTION

Index patient

The 4-year-old child with vesicoureteral reflux (VUR) and evidence of clinical bladder/bowel dysfunction (BBD) without evidence of an overt neurological cause.

TOPIC 4 – SCREENING OF SIBLINGS AND OFFSPRING OF PATIENTS WITH VESICOURETERAL REFLUX

Index Patient

The sibling of a child with vesicoureteral reflux (VUR).

TOPIC 5 – SCREENING OF THE NEONATE/INFANT WITH PRENATAL HYDRONEPHROSIS

Index patient

The healthy neonate with unilateral mild (Society for Fetal Urology [SFU] grade 1) to moderate (SFU grades 2–3) hydronephrosis identified on a screening prenatal ultrasound at 30 weeks gestation.

“Treatment options include observation, continuous antibiotic prophylaxis (CAP), and interventions of curative intent”.

“If there is indeed a lack of preventative benefit with CAP for acute pyelonephritis and renal injury in children with VUR, one may question the value of treating, or even diagnosing, VUR”.

“An association between VUR and renal injury was demonstrated”

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CONTROVERSIAL AUA GUIDELINES

Figure 6: Algorithm for the management of a first febrile UTI

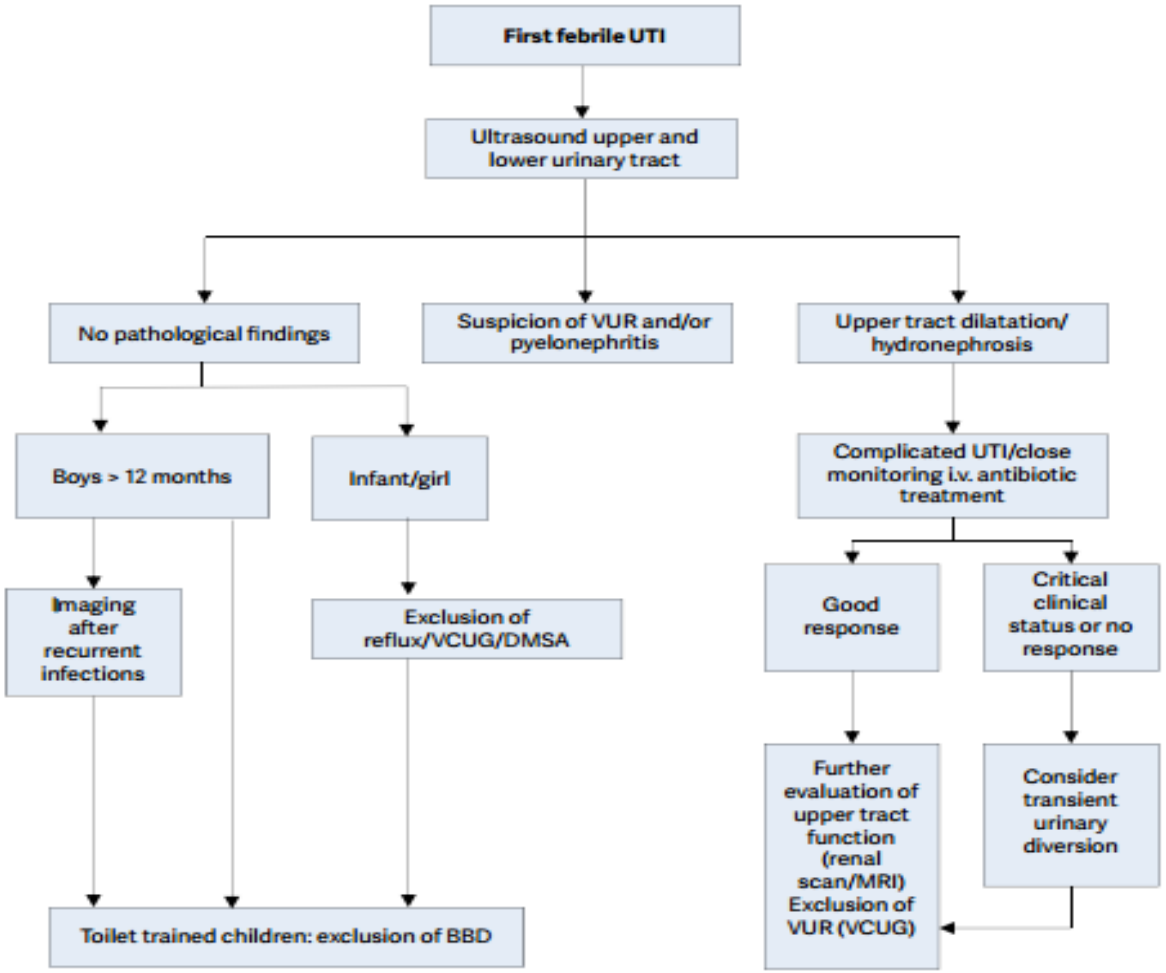

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Table 10: Management and follow-up according to different risk groups

Risk Groups	Presentation	Initial treatment	Comment	Follow-up
High	Symptomatic male or female patients after toilet-training with high-grade reflux (grades IV-V), abnormal kidneys and LUTD	Initial treatment is always for LUTD with CAP; intervention may be considered in cases of BT infections or persistent reflux	Greater possibility of earlier intervention	More aggressive follow-up for UTI and LUTD; full re-evaluation after 6 months
High	Symptomatic male or female patients after toilet-training with high-grade reflux (grade IV-V), abnormal kidneys and no LUTD	Intervention should be considered	Open surgery has better results than endoscopic surgery	Post-operative VCUG on indication only; follow-up of kidney status until after puberty
Moderate	Symptomatic male or female patients before toilet-training, with high-grade reflux and abnormal kidneys	CAP is the initial treatment. Intervention may be considered in cases of BT infections or persistent reflux	Spontaneous resolution is higher in males	Follow-up for UTI/ hydronephrosis; full re-evaluation after 12-24 months
Moderate	Asymptomatic patients (PNH or sibling) with high-grade reflux and abnormal kidneys	CAP is the initial treatment. Intervention may be considered in cases of BT, infections or persistent reflux		Follow-up for UTI/ hydronephrosis; full re-evaluation after 12-24 months
Moderate	Symptomatic male or female patients after toilet-training, with high-grade reflux and normal kidneys with LUTD	Initial treatment is always for LUTD with CAP. Intervention may be considered in cases of BT, infections or persistent reflux	In case of persistent LUTD, despite urotherapy, intervention should be considered. The choice of intervention is controversial	Follow-up for UTI and LUTD, kidney status; full re-evaluation after successful urotherapy
Moderate	Symptomatic male or female patients after toilet-training with low-grade reflux, abnormal kidneys with or without LUTD	Choice of treatment is controversial. Endoscopic treatment may be an option. LUTD treatment should be given if needed.		Follow-up for UTI, LUTD, and kidney status until after puberty
Moderate	All symptomatic patients with normal kidneys, with low-grade reflux, with LUTD	Initial treatment is always for LUTD with or without CAP		Follow-up for UTI and LUTD
Low	All symptomatic patients with normal kidneys, with low-grade reflux, with no LUTD	No treatment or CAP	If no treatment is given, parents should be informed about risk of infection	Follow-up for UTI
Low	All asymptomatic patients with normal kidneys with low-grade reflux	No treatment or CAP in infants	If no treatment is given, parents should be informed about risk of infection	Follow-up for UTI

PNH = prenatal diagnosed hydronephrosis.

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SO WHAT? STRATEGY :

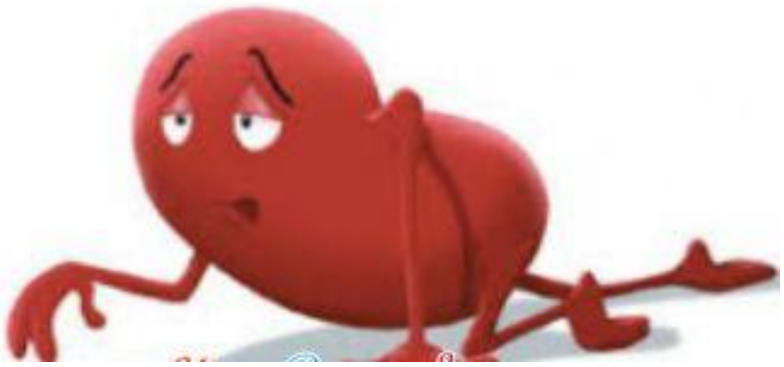
Exclude other causes: neurogenic, anatomical anomalies

Treat associated constipation

Treat associated LUTD

Screen siblings (US)

When prenatal HUN, do US first



SO WHAT? STRATEGY : primary low grade reflux

Y1: prophylaxis

Discussion with the parents when reflux persists after 1 year

If = or > : endoscopic injection

If < : wait till after toilet training

If persistent after toilet training treat endoscopically

So what? Strategy : all other forms

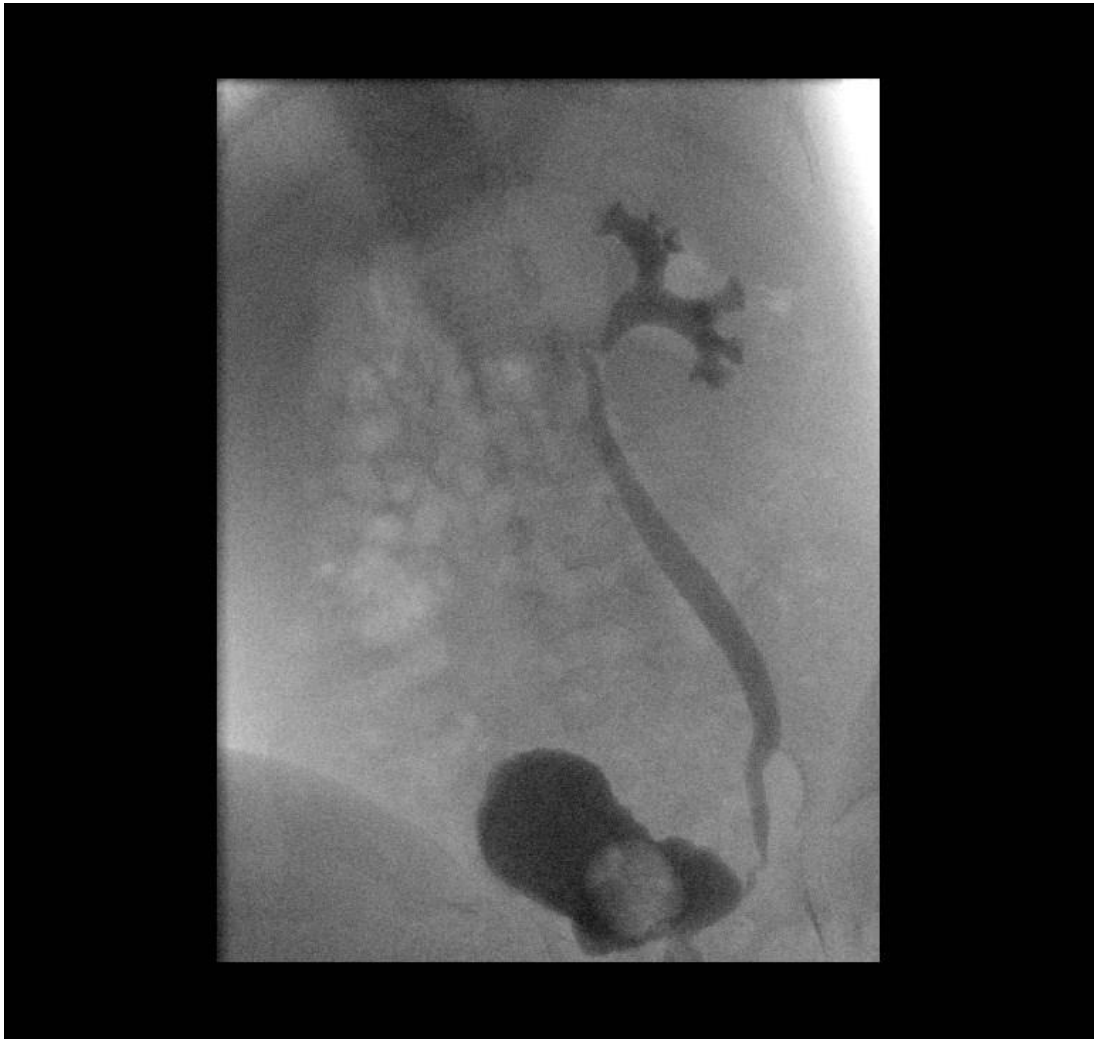
Tailored therapy based on

- Anatomy
- Function
- Social environment, parental preference
- Economic environment

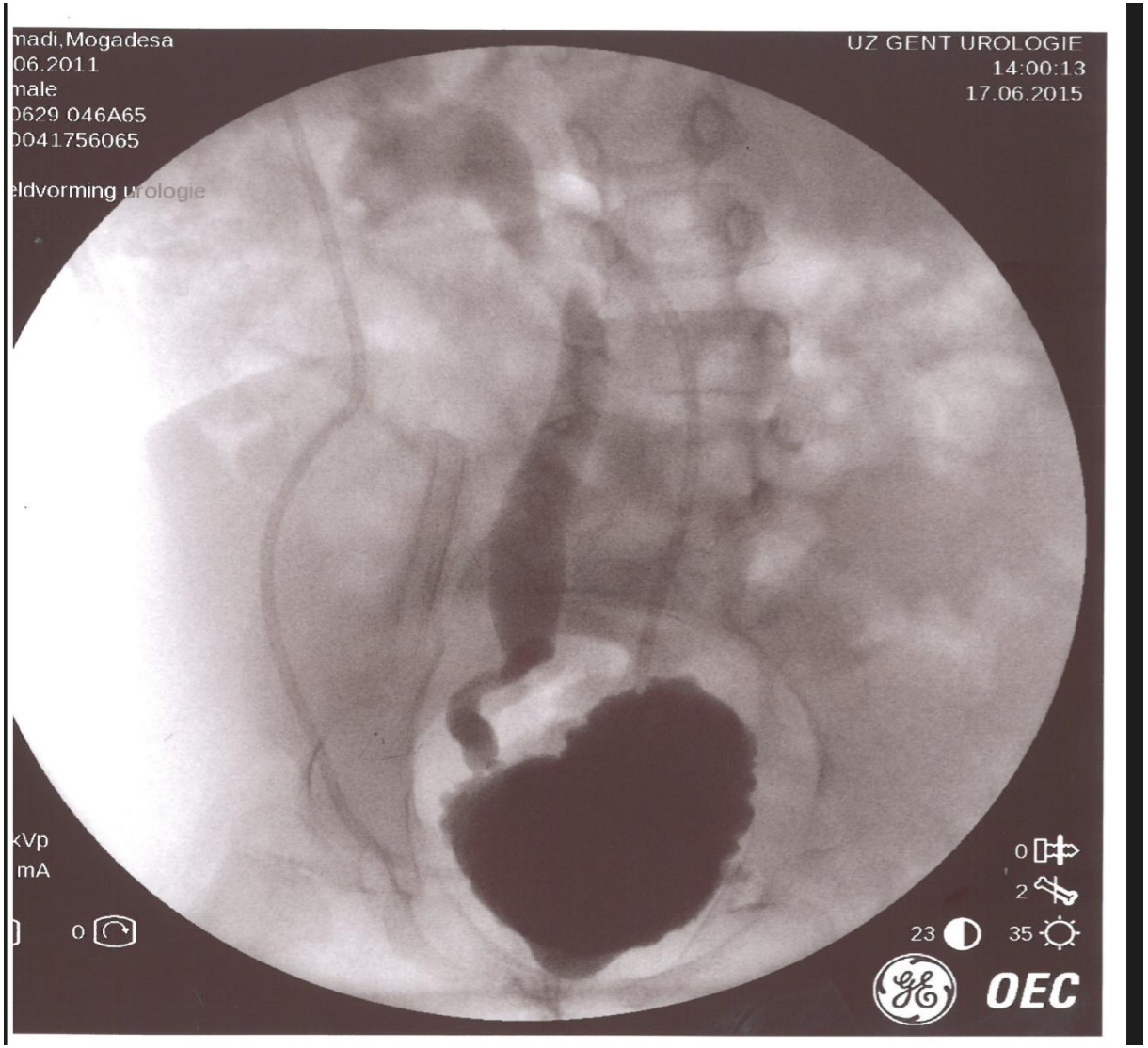
Keep in mind that open reconstructive surgery is still a valuable option for treatment

4 years old boy

9 months old boy



3 Y girl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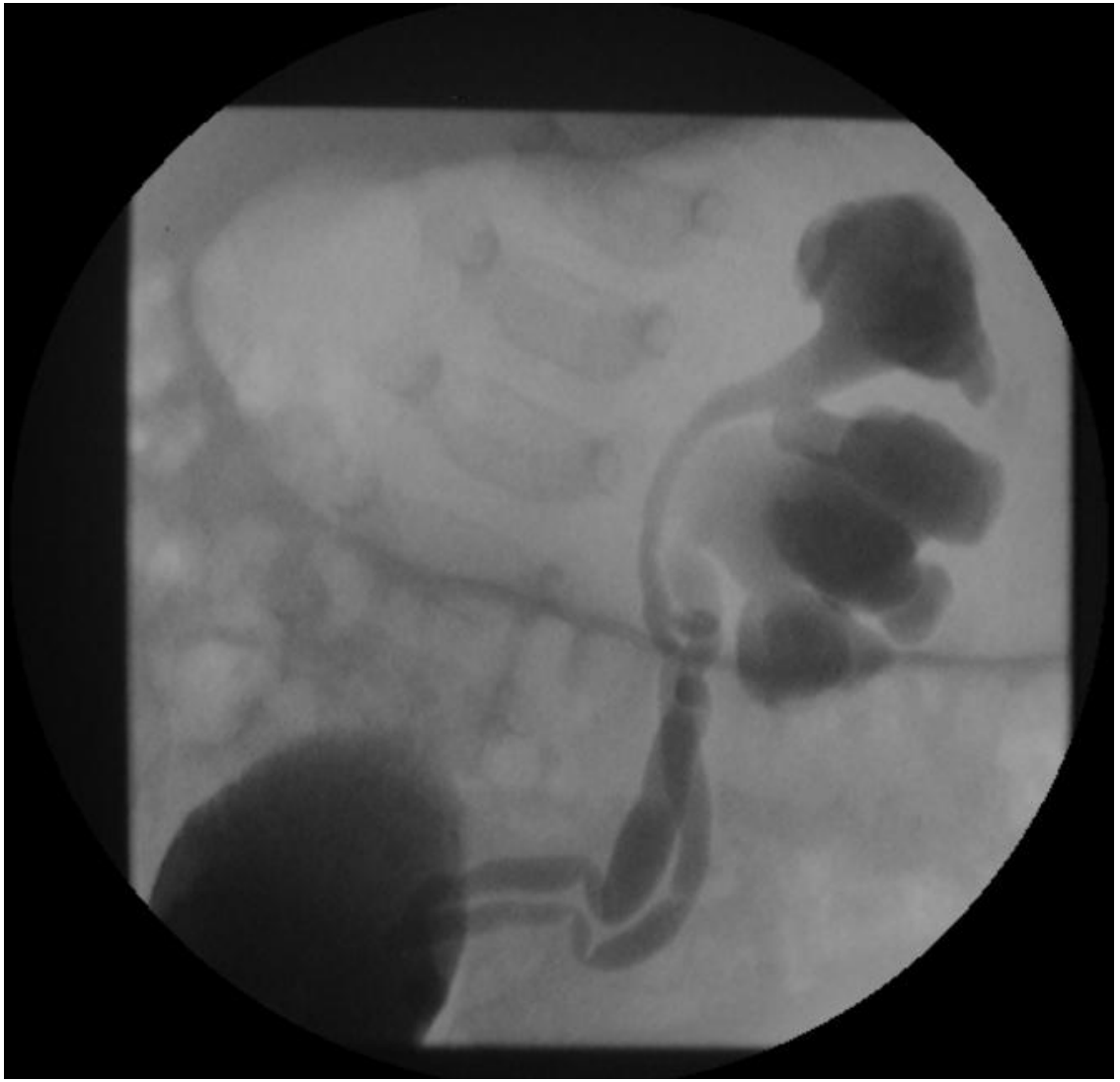
3 Y girl



Introduction

Treatment

Guidelines : So what?

Conclusions

CONCLUSIONS

Exclude secondary reflux

Treat constipation and LUTD

Before 1 Y: Profylaxis in low grade

Adapt to the anatomy, the context, and parent's wish : aim is to avoid renal damage.

Screen siblings

Thanks !

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