

Summary, UTD Grading Scale Postnatal US

Stephen Foster

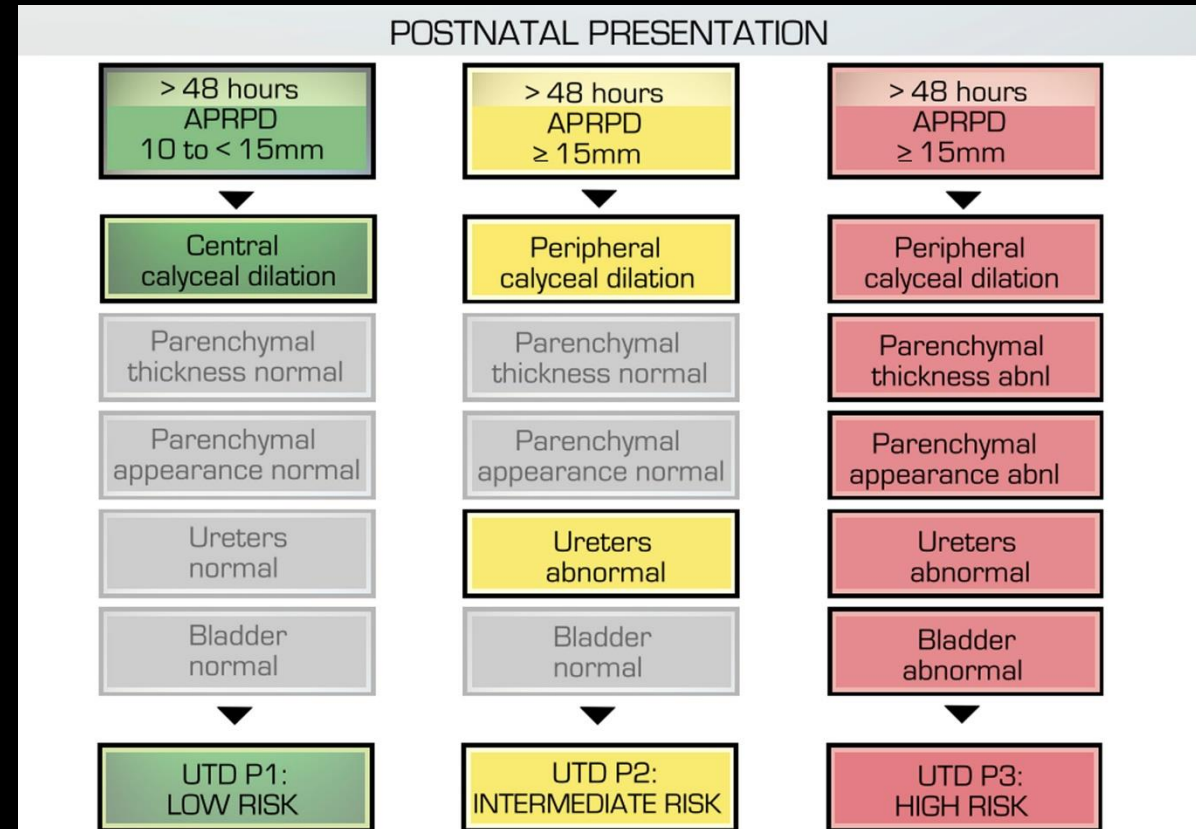
- The Urinary Tract Dilation (UTD) scale came about as an attempt to improve inter-observer variability when classifying Pediatric hydronephrosis
- It was released as a consensus statement in the Journal of Pediatric Urology in 2014 [https://www.jpurology.com/article/S1477-5131\(14\)00310-6/abstract#articleInformation](https://www.jpurology.com/article/S1477-5131(14)00310-6/abstract#articleInformation)
- It is now in general use in the Pediatrics community. They will know what you mean if you use the scale in an impression.
- There is pre-natal and post-natal. I will concentrate on Post-Natal here as OB has reclaimed the prenatal.
- All images are shamelessly stolen from the article referenced above under fair use for education rules. Plus I assume this is staying here in house.

Criteria

- AP diameter of renal pelvis. Measured on transverse images, at the level of the parenchymal margin
- Central calyceal dilation
- Peripheral Calyceal dilation
- Ureter normal or dilated
- Parenchymal thinning +/-
- Parenchymal echotexture abnormal
- Appearance of the bladder

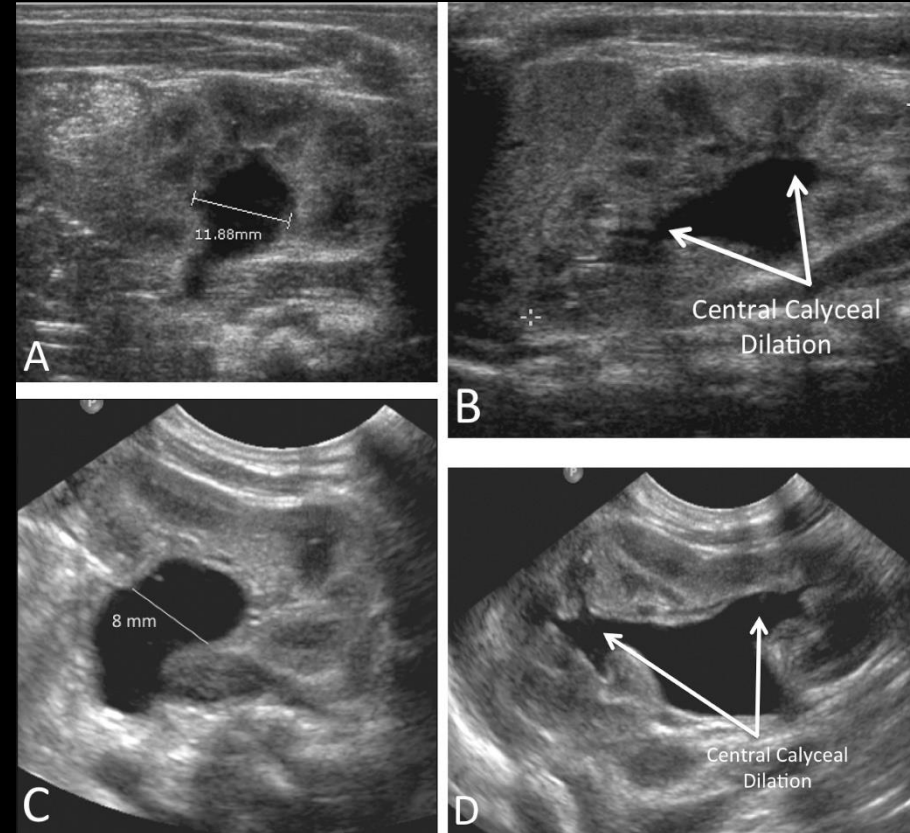
Whatever single item is the WORST will bump the scale to that level

- Central calyceal dilation with loss of corticomedullary differentiation = UTD P3



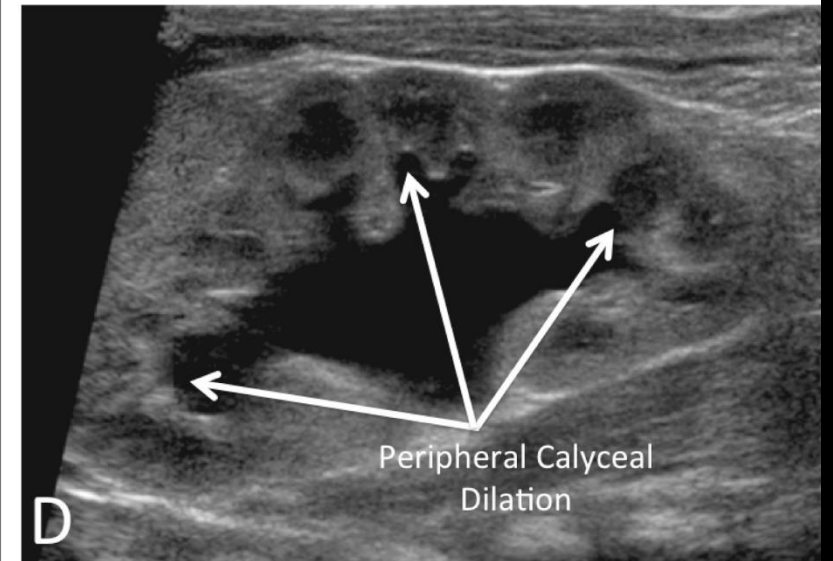
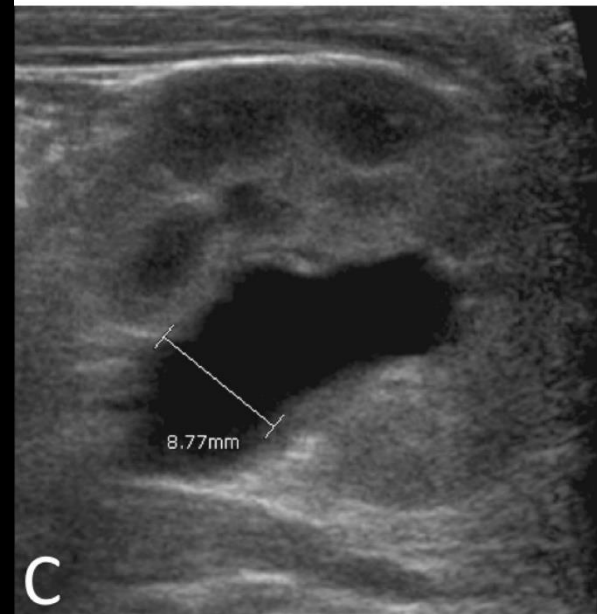
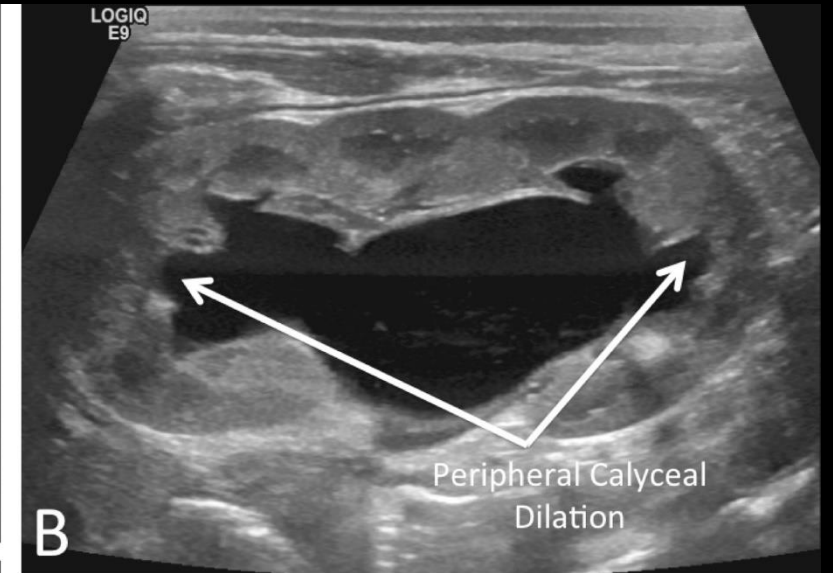
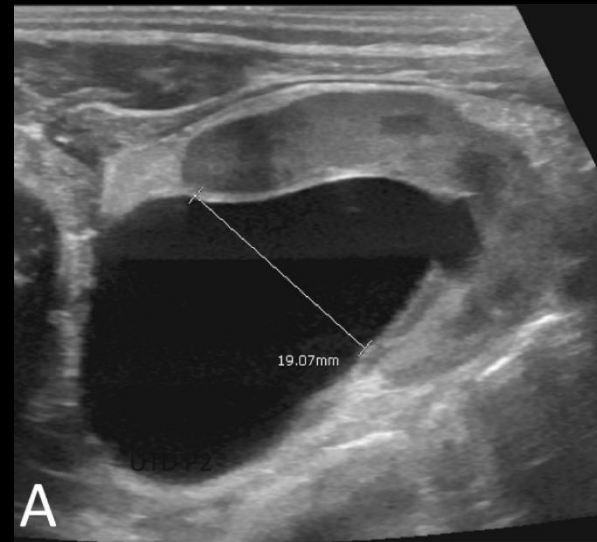
What's dilated?

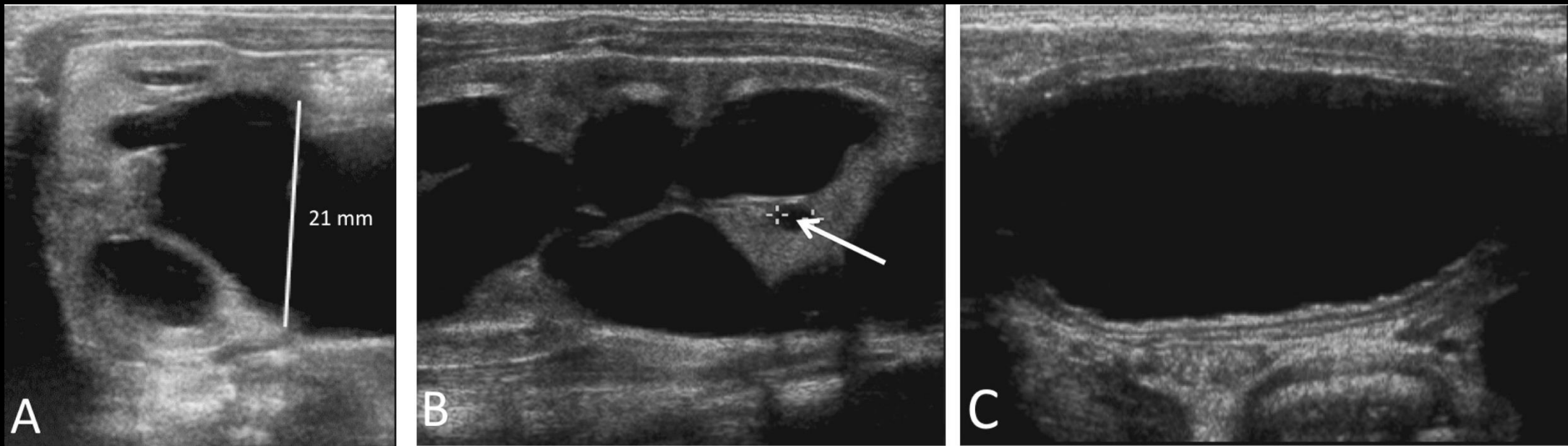
- Everyone is entitled to some minimal splitting of the renal pelvis (urine has to go somewhere)
- Central calyces as shown in B and D
- Location of measurement for the AP diameter of pelvis is pretty good in C. Not so great in A, and these are the images from the article
- Pelvis diameter IMO is the least reproducible and by far the least useful criteria. One can easily have a rather large pelvis and no central collecting system dilation (I call these normal), or a 4mm pelvis and completely blown out center.
- However, because it's a number, people will ask for it and persevere on it. I gave up fighting it, but just know it's not that helpful.



What's Dilated?

- B and D now show peripheral dilation
- Notice the difference between A and C for pelvis diameter. These kidneys end up the same UTD grade
- Given the wide range of variability in central collecting system dilation with visibility of the minor/peripheral calyces, people do use intermediate grades, i.e. UTD 1-2, or UTD 2-3 for a little more flexibility. I do it and have never had push back, though the original article does not specify this.
- An argument could be made that there is cortical thinning in B here.
- I would call D a UTD P2, and B a UTD 2-3 based on these single images.

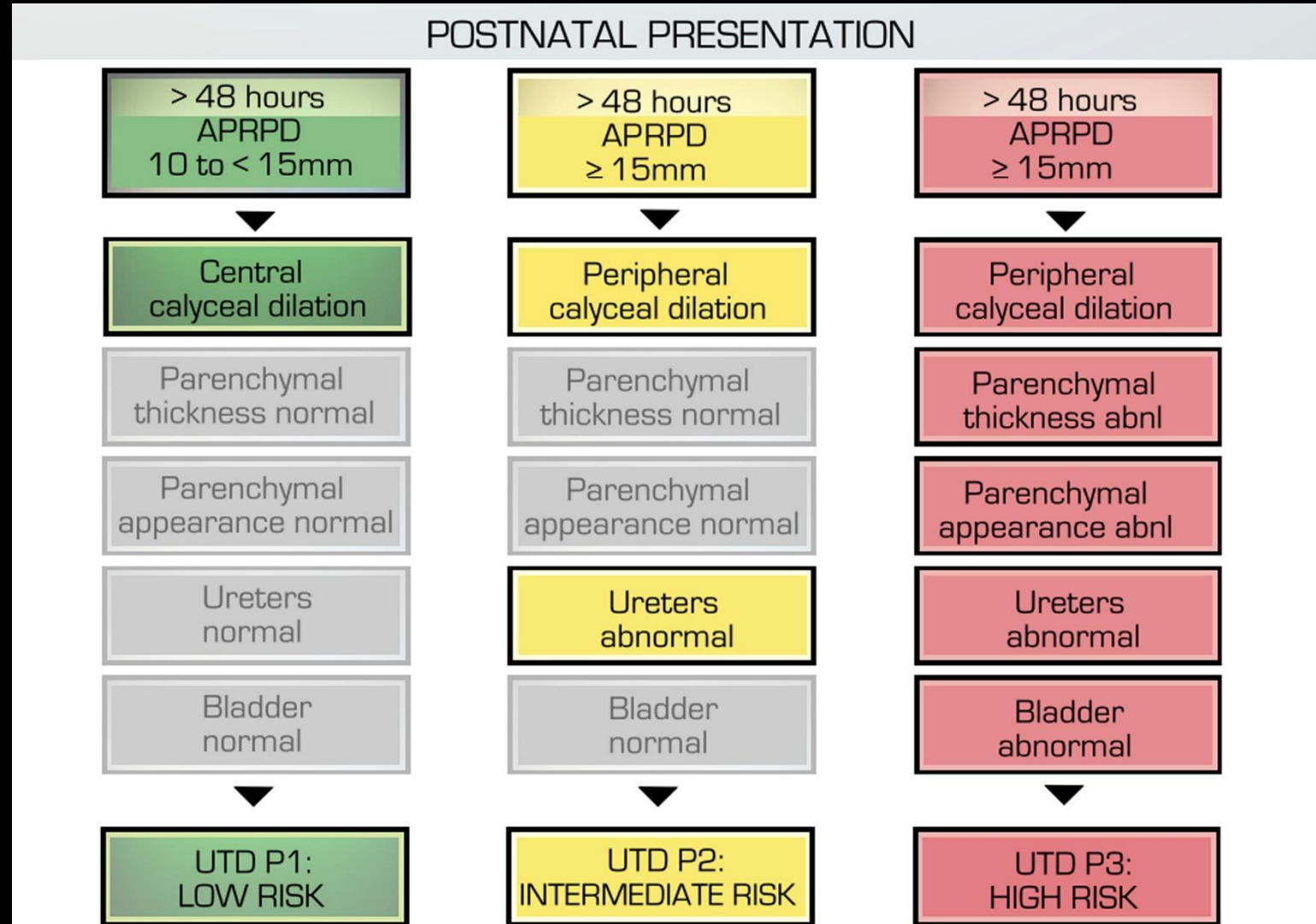




- In this case, we have parenchymal thinning and cystic change
- Gross dilation of the peripheral/minor calyces
- Dilation of the proximal ureter
- Abnormal bladder trabeculation
- Any 1 of these would elevate the case to a UTD P3

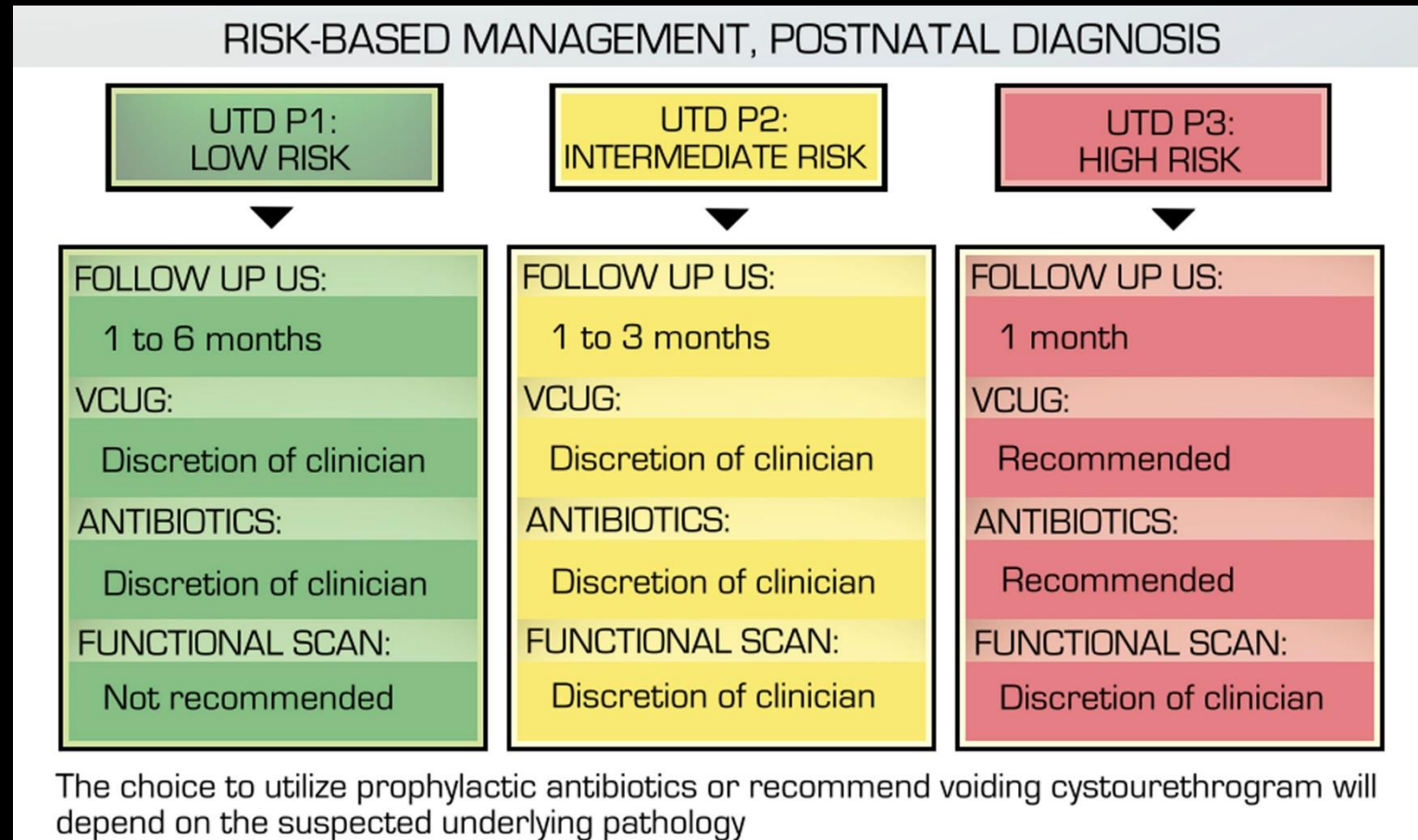
UTD Grading Helps drive management

- The world changing (for Peds Rads) article in the Journal Pediatrics in 2011, allowing clinicians to NOT do a VCUG on females with first UTIs, made my life and the lives of innumerable little girls better.
- But, now that everyone didn't get a full work up, how do we know who does?
- The UTD scale drives next steps, so it is very helpful for the Pediatricians if we use it widely.



Management

- UTD scaling via Ultrasound determines risk level, in conjunction with clinical information such as UTI number, male vs female, etc.
- Like most scales and clinical decision making, I rarely mention these recommendations specifically in a report. Definitely not for urology, possibly for the busy APRN with the 6 minute office visits.
- If I am calling an initial 2 or 3, I do recommend Pediatric Urology consultation be considered.
- In the end, this system isn't perfect and does leave some room for inter-observer variability. But, it is better than "mild, moderate, severe"



Thanks for Helping out the Little Ones

