## EXCLUSIONS

Services not offered by Paediatric Nephrology at Monash Children’s Hospital

- Faecal incontinence / encopresis / constipation: refer to [General Paediatrics](#)
- Night wetting management for children under 7 yrs
- Day wetting management for children under 5 years
- Mild Hydronephrosis < 10 mm in one of two kidneys with no other abnormalities
- Isolated persistent microscopic haematuria for < 6 months
- Single afebrile urinary tract infection with no other findings over 2 years of age
- Patients over 18 years of age: [Click here](#) for adult Monash Health Nephrology guidelines

## CONDITIONS

### HYDRONEPHROSIS

- Antenatal hydronephrosis
- Hydronephrosis / hydroureter

### HAEMATURIA

- Haematuria
- Macroscopic haematuria
- Microscopic haematuria – isolated
- Microscopic/macroscopic haematuria +/- proteinuria, rash, hypertension, systemic symptoms, haemoptysis

### CONGENITAL ABNORMALITIES OF THE KIDNEY AND URINARY TRACT

- Crossed fused renal ectopic
- Horseshoe kidney
- Obstructive uropathy
- Renal dysplasia / hypoplasia
- Multicystic dysplastic kidney
- Single kidney

### OTHER

- Hypertension
- Immunosuppressed with fever
- Nephrotic syndrome
- Proteinuria – isolated
- Proteinuria – nephrotic range
- Reflux nephropathy
- Renal cyst
- Renal stones
- Urinary incontinence: day and or night
- Urinary Tract Infection (UTI)

### ACUTE OR CHRONIC RENAL FAILURE

- Renal failure

---

Head of Department: Dr Lilian Johnstone  
Program Director: Prof Nick Freezer  
Last updated: 09/11/2023
Monash Children’s Hospital
Referral Guidelines
NEPHROLOGY

**PRIOR**
The patient has a condition that has the potential to deteriorate quickly with significant consequences for health and quality of life if not managed promptly.

**URGENT**
The patient's condition is unlikely to deteriorate quickly or have significant consequences for the person's health and quality of life if the specialist assessment is delayed beyond one month

**REFERRAL**
How to refer to Paediatric Nephrology at Monash Children’s Hospital

### Mandatory referral content

**Demographic:**
- Full name
- Date of birth
- Next of kin
- Postal address
- Contact number(s)
- Email address
- Medicare number
- Referring GP details including **provider number**
- Usual GP (if different)
- Interpreter requirements

**Clinical:**
- Reason for referral
- Duration of symptoms
- Management to date and response to treatment
- Past medical history
- Current medications and medication history if relevant
- Functional status
- Psychosocial history
- Dietary status
- Family history
- Diagnostics as per referral guidelines

**CONTACT US**
**Medical practitioners**
To discuss complex & urgent referrals contact: On-call paediatric nephrology ATR during hours or nephrologist on call after hours through Monash Health switchboard 9594 6666

To discuss **routine referrals** email: MCH_nephrology@monashhealth.org (checked only during business hours, response within 48 hours)

**Submit a referral**
Refer via electronic referral using HealthLink. Details available at https://monashchildrenshospital.org/for-health-professionals/gp-ereferrals/

**General enquiries**
Phone: 8572 3004
Find up-to-date information about how to send a referral to Monash Health on the eReferrals page on our website.

**Head of Department:**
Dr Lilian Johnstone

**Program Director:**
Prof Nick Freezer

**Last updated:**
27/06/2019
HYDRONEPHROSIS

ANTENATAL HYDRONEPHROSIS

Initial GP Workup
Ref to antenatal hydronephrosis guidelines for more information
Initial postnatal scan timing: If patient has MFM plan continue to follow, otherwise patient requires ultrasound in 72 hours if any of the following are found:
• Unilateral hydronephrosis >15mm
• Bilateral hydronephrosis >10mm on both sides
• Single kidney with hydronephrosis > 10 mm
• Hydroureter with any degree of hydronephrosis
• Abnormal bladder
• Palpable kidney
• Oligohydramnios

Management Options for GP
• All other patients can have ultrasound at 4-6 weeks
• If any of the above conditions present please discuss with renal team
• If hydronephrosis resolved, nil further scans required
• All other patients repeat renal ultrasound at 3 months
• Consider emailing renal team for further specific individual advice.

WHEN TO REFER?

Urgent
Conditions listed are deemed high risk urgent. Please contact paediatric nephrology ATR or nephrologist on call via Monash Health switchboard 9594 6666 following post natal ultrasound scan to discuss prior to discharging baby.

Routine
APD 8-15mm. Consider emailing renal team to discuss specific individual patients

HYDRONEPHROSIS OVER 12 MONTHS OLD

Presentation
• Any new diagnosis in child over 12 months of age of hydronephrosis > 10 mm; or
• Hydroureter with hydronephrosis.

Initial GP Workup
• Refer to hydronephrosis guidelines for more information
• BP
• Urine MCS & protein : creatinine ratio
• UEC if abnormal renal parenchyma

Management Options for GP
N/A

WHEN TO REFER?

Emergency
Oligo / anuria

Urgent
Urgency and clinic determined by ultrasound abnormalities – the listed conditions warrant further discussion with either paediatric nephrology or urology via Monash Health switchboard 9594 6666

Routine
APD 8-15mm. Consider emailing renal team to discuss specific individual patients
CONGENITAL ABNORMALITIES OF THE KIDNEY AND URINARY TRACT

WHEN TO REFER?

Urgent
Consider hydronephrosis > SFU 3 (see below) or as per hydronephrosis guideline

Routine
All other patients

Initial GP Work Up
• Measure BP
• Renal ultrasound
• Urine protein: creatinine ratio
• Serum creatinine if reduced / abnormal renal parenchyma

Please ensure you have
• Growth records
• Previous radiographic studies, including films and reports
• Previous laboratory test results
• Details of all treatments offered and tried
• Copies of other relevant letters should accompany the referral

Management Options for GP
Continue to monitor

CONGENITAL ABNORMALITIES OF THE KIDNEY AND URINARY TRACT

HORSESHOE KIDNEY, CROSS FUSED ECTOPIA, SINGLE KIDNEY, RENAL DYSPLASIA, RENAL HYPOPLASIA, OBSTRUCTIVE UROPATHY EG POSTERIOR URETHRAL VALVES
ACUTE OR CHRONIC RENAL FAILURE

RENAL FAILURE

Initial GP Work Up
• Measure BP
• Electrolytes
• Urea, creatinine
• Calcium, magnesium, phosphorous
• FBE
• Urine MCS
• If completed proteinuria on dipstick, provide protein : creatinine ratio
• Renal ultrasound

Please ensure you have
• Growth records
• Previous radiographic studies, including films and reports
• Previous laboratory test results
• Details of all treatments offered and tried
• Copies of other relevant letters should accompany the referral

Management Options for GP
Refer to nephrologist

WHEN TO REFER?

Emergency
Please contact Paediatric Nephrology ATR or Nephrologist via Monash Health switch 9594 6666
• Hyperkalemia > 6
• Bicarbonate < 10
• Hyperphosphatemia

Urgent
Refer if creatinine is twice upper limit of normal or > 25% above upper limit of normal. Please contact Paediatric Nephrology ATR or Nephrologist via Monash Health switch 9594 6666

Routine
• Raised creatinine but less than twice upper limit of normal
• Consider 24 hour urine collection for creatinine clearance
MICROSCOPIC HAEMATURIA

Presentation

The presence of >10 RBC on urine microscopy.

Initial GP Work Up

- Perform at least 3 urine microscopies at least 6 weeks apart at time when child is well over a 6 month period. If resolved do not refer.
- Please closely evaluate for any voiding dysfunction or vulvovaginitis and treat.
- If microhaematuria remains please start additional testing as per below.
- For isolated microhaematuria referrals will only be accepted once the patient has had >6 months of persistent microhaematuria.
- Check blood pressure and growth

Investigations

- Renal ultrasound
- Urine Tests
  - Urinalysis with microscopy (clean catch urine) – 3 or more samples within 6 months
  - Urine culture
  - Urine albumin: creatinine ratio (early morning) - 3 or more samples within 6 months
  - Urine calcium to urine creatinine ratio (N=<0.7mmol/mmol)
  - Urine dipstick on parents
- Serum Tests
  - Creatinine/U&Es
  - Electrolytes
  - Full Blood Count
  - Serum coagulation studies (APTT, INR) if macroscopic haematuria

Please ensure you have

- Growth records
- Previous radiographic studies, including films and reports
- Previous laboratory test results
- Details of all treatments offered and tried. Copies of other relevant letters should accompany the referral

Management Options for GP

Urgent phone consultation or immediate referral to paediatric nephrology is strongly recommended in the presence of any of the following:
- Constitutional symptoms like weight loss, fever, arthralgia or rash.
- Evidence of poor growth.
- Elevated blood pressure.
- Presence of oedema.
- Elevated serum creatinine and/or potassium.
- Presence of RBC casts upon urine microscopy.
- Abnormal renal ultrasound.
- Haematuria with associated proteinuria.
- Decreased urine output.

Do not refer if the microhaematuria is isolated and there have been <3 urines over 6 months that document this.

WHEN TO REFER?

Urgent

Urgent phone consultation or immediate referral to Paediatric Nephrology ATR or Nephrologist via Monash switch 95946666 is strongly recommended in the presence of any of the following:
- Constitutional symptoms like weight loss, fever, arthralgia, haemoptysis or rash.
- Evidence of poor growth.
- Elevated blood pressure.
- Presence of oedema.
- Elevated serum creatinine and/or potassium.
- Presence of RBC casts upon urine microscopy.
- Abnormal renal ultrasound.
- Proteinuria.
- Decreased urine output.

Routine

- Normal renal function, normotensive, normal renal ultrasound, nil proteinuria
- Do not refer if mild haematuria < 25 RBC and no other abnormalities
HAEMATURIA (cont’d)

MACROSCOPIC HAEMATURIA

Presentation
Darkening of urine visible to the naked eye.

Initial GP Work Up
• BP
• Urine dipstick
• Urine MCS
• Urine protein: creatinine ratio
• Renal US
• UEC, FBE, ESR, C3, C4, ASOT, anti-DNase, ANA, LFT
• Coagulation studies – APTT, INR
• Consider ANCA or anti GBM testing

Management Options for GP
• Discuss with nephrologist if any significant abnormalities
• If urine does not show any red cells but dipstick is positive consider CK and urine myoglobin.

WHEN TO REFER?

Urgent
Urgent phone consultation or immediate referral to Paediatric Nephrology ATR or Nephrologist via Monash switch 9594666 is strongly recommended in the presence of any of the following:
• Constitutional symptoms like weight loss, fever, arthralgia, haemoptysis or rash.
• Evidence of poor growth.
• Elevated blood pressure.
• Presence of oedema.
• Elevated serum creatinine and/or potassium.
• Presence of RBC casts upon urine microscopy.
• Abnormal renal ultrasound.
• Proteinuria.
HYPERTENSION

Initial GP Work Up
• Weight
• BP & ambulatory BP
• Urine MCS
• Renal US including Doppler studies of renal arteries
• Urine protein: creatinine ratio,
• UEC, LFT, FBE
• ? renin, aldosterone

Please ensure you have:
• Details of all treatments offered and tried.
• Copies of other relevant letters should accompany the referral

Management Options for GP
• BP ➔ 90-95th centile for age – asymptomatic – monitor, lifestyle measures, consider referral
• BP ➔ 95th centile – asymptomatic – as above and refer.
• Urgent referral if
  o BP> 30mmHg above 95th centile or any symptomatic hypertension
• Call Nephrologist if:
  o Symptomatic hypertension such as headache, nausea, vomiting, abdominal pain, neurological changes, seizures, CCF or blurred vision.
  o Hypertension with extra renal manifestations such as joint pain, rash, joint swelling, haemoptysis, dyspnoea, cough or oedema.
• See Tables 3 and 4 for blood pressure data

WHEN TO REFER?

Emergency
• Symptomatic hypertension, or
• BP > 30mm Hg above 95th centile, or
• BP >180/120 in adolescent

Urgent
BP >95th centile + symptomatic. Please contact paediatric nephrology ATR or nephrologist on call via Monash Health switch 9594 6666 to discuss initial management

Routine
As per GP management

IMMUNOSUPPRESSED WITH FEVER/ ILLNESS EG. NEPHROTIC, TRANSPLANT RECIPIENT

Initial GP Work Up
Discuss with on-call nephrologist

Management Options for GP
Discuss with on-call nephrologist

WHEN TO REFER?

Emergency
If shock / unwell child (see statewide guideline for febrile child)

Urgent
Discuss with on-call nephrologist
PROTEINURIA - ISOLATED

Initial GP Work Up
• BP
• Urine MCS
• Renal US
• Urine protein: creatinine ratio
• Early morning urine for protein: creatinine ratio x3
• 24 hour urine protein excretion
• UEC, LFT

Please ensure you have:
• Growth records
• Details of all treatments offered and tried.
• Copies of other relevant letters should accompany the referral

Management Options for GP
• Do not measure albuminuria unless patient is diabetic or has persistent isolated microscopic haematuria
• Proteinuria < 500 mg/ day – non urgent referral unless other abnormalities

WHEN TO REFER?

Regular
Proteinuria < 500mg/day

Emergency
Admission usually indicated for all patients with newly diagnosed nephrotic syndrome

Urgent
Please contact paediatric nephrology ATR or nephrologist on call via Monash switch 9594 6666

WHEN TO REFER?

Urgent
Non-orthostatic proteinuria > 500 mg per 24 hours or proteinuria with any other abnormality

Routine
Proteinuria < 500mg/day

BACK
OTHER (cont’d)

REFLUX NEPHROPATHY

Initial GP Work Up
- BP
- Urine analysis
- Renal US
- Include results of all images including any prior MCU in referral
- Do not request MCU or nuclear medicine imaging

Management Options for GP
Monitor BP and urine protein: creatinine

WHEN TO REFER?

Urgent
Refer if:
- Abnormal BP
- Abnormal renal function
- Proteinuria
- Poor somatic
- Renal growth

RENAAL CYST

Initial GP Work Up
- BP
- Urine MCS
- Renal US
- Parental renal US

Management Options for GP
Monitor BP and urine protein

WHEN TO REFER?

Urgent
If hypertensive, bilateral cystic kidney disease, any evidence of hydronephrosis or CAKUT

Routine
- Refer for discussion of cyst aetiology and management
- Refer if familial
URINARY INCONTINENCE: DAY AND OR NIGHT

Initial GP Work Up
- Developmental history, toilet training history
- Associated behaviour patterns
- Parent and child's attitude to problem
- Details of all treatments offered and tried
- Faecal incontinence referrals not accepted

Night wetting
- Offer treatment if 7 years or older
- Use diary to measure and monitor
- Explore parenting practices e.g. night fluid restricting, overnight toileting, punitive practices
- Assess whether constipation is a problem

Day wetting
- Consider overactive bladder, low awareness of bladder sensation, poor attention / concentration
- Exclude UTI - urine MCS
- Consider constipation
- Renal ultrasound

Investigations
Day wetting
- Urine MCS
- Renal US with pre and post void bladder volumes

Night wetting
- Urine MCS

- Consider bladder diary
  [Link to bladder diary](http://www.monashchildrenshospital.org/wp-content/uploads/2017/05/bladder-diary-form.pdf)

Management Options for GP
- Refer to the Australian Continence Foundation for GP management
- Refer to Monash Children’s Hospital day wetting and abnormal bladder function fact sheet for further information and management options

WHEN TO REFER?

**Emergency**
If renal colic/signs of obstruction/hydronephrosis, oligoanuria

**Urgent**
Please refer to urology for acute stone management

**Routine**
All patients for metabolic evaluation and education

RENAI L STONES

Initial GP Work Up
- BP
- Urine analysis
- Renal US
- Stone analysis

Management Options for GP
Refer for stone evaluation

WHEN TO REFER?

**Emergency**
If renal colic/signs of obstruction/hydronephrosis, oligoanuria

**Urgent**
Please refer to urology for acute stone management

**Routine**
All patients for metabolic evaluation and education

OTHER (cont’d)
URINARY TRACT INFECTION

Initial GP Work Up
- Urine culture - clean catch urine
- Renal Ultrasound
- Assess bladder function
- Assess for constipation

Please ensure you also include
- Growth records
- Details of all treatments offered and tried.
- Copies of other relevant letters should accompany the referral

Management Options for GP
- Consider role of prophylactic antibiotics.
- Do not arrange a routine VCUG (voiding cystourethrogram)
- See relevant fact sheet and guidelines for further information:
  - Urinary tract infection - child
  - Urinary tract infection – infant

WHEN TO REFER?

Emergency
- Refer to statewide guideline for febrile child
- Infant <1 month old
- Any infant < 6 months with signs of sepsis

Urgent
- Any renal impairment or abnormal renal ultrasound please discuss with paediatric nephrology ATR or nephrologist on call via Monash switch 9594 666
- Ultrasound shows anatomical defect such as hydronephrosis

Routine
Refer the following to Nephrology:
- Febrile UTI
- Recurrent afebrile UTI (more than 3 in one year)
- Associated hypertension or can't take blood pressure
- Do not refer if single afebrile UTI over 24months of age with no other findings

Refer the following to General Paediatrics
- A infant that has a confirmed UTI without fever
- A child with 3 or more recurrent UTIs without fever

OTHER (cont’d)