

Survival guide to Paediatrics

Childrens Unit

QE Woolwich 2023

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Introduction

Welcome to Paeds! It's going to be a very *different* few months, with lots of rewarding experiences. Who knows, you may even want to become a Paediatrician at the end of it...

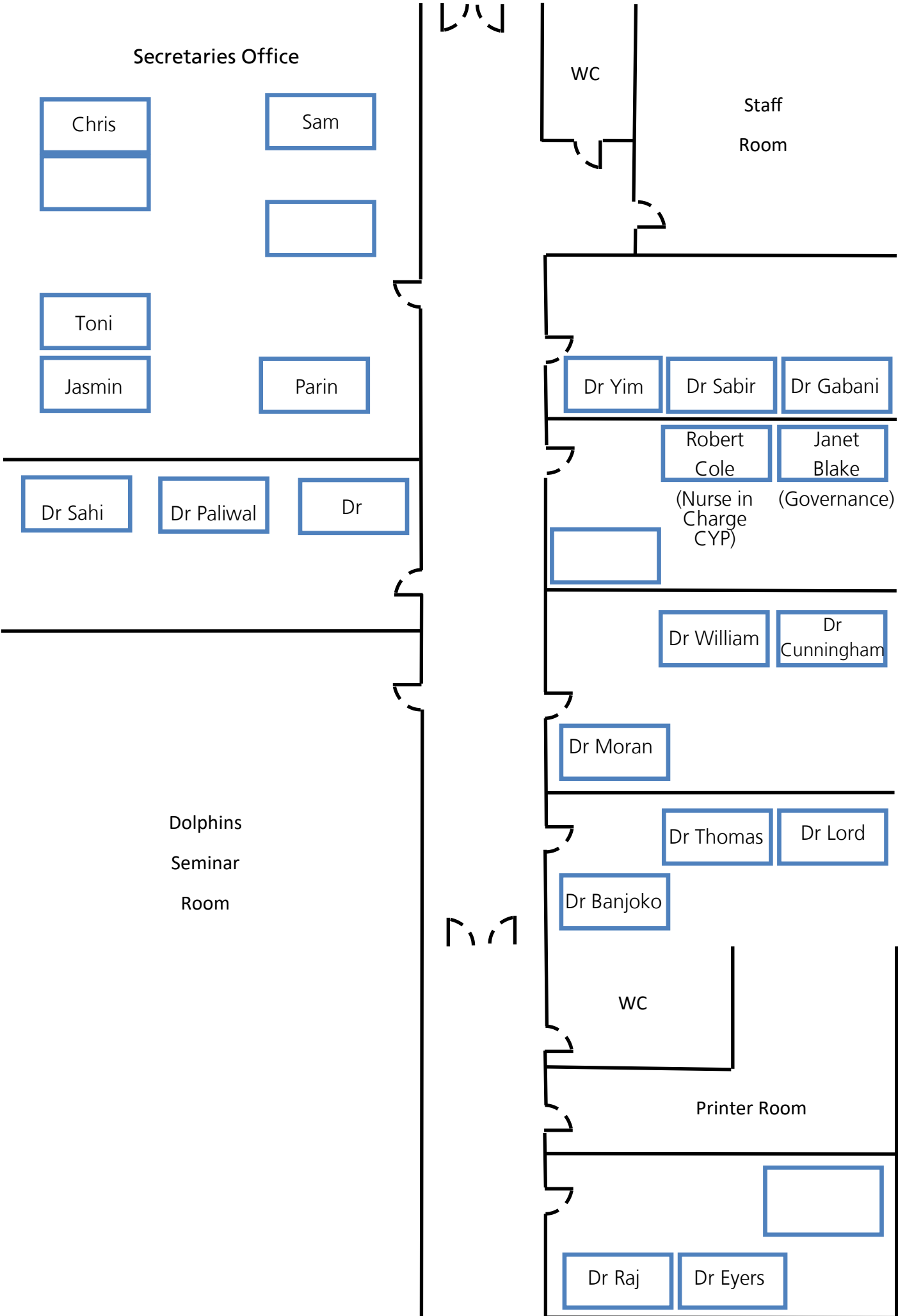
I decided to write this guide after working at the QEH as an ST1 and experiencing first-hand the vertiginous learning curve for myself and my F2 and GP colleagues. SHOs I've spoken to say it felt like they 'hit the ground running' and so I hope this guide will give you the useful advice that we didn't have.

Marie Monaghan (Trainee 2013) from "A very informal insider's guide"

On finding out the hospital was sending out the same induction pack since 2013, we decided to update it and since I was unable to improve on the above welcome, we have left it in.

In Paediatrics we are all aware the way we practice is different from most other specialties and what you are used to. **If unsure or uncertain always ask**, we are happy to answer questions and support. This guide is only a guide, not set in stone.

Dolphins Corridor (Past outpatients)



Computer system and shared drive

Hopefully in the induction packet, you have been given your login to the to the network. With this you should have been given access to the shared drive (S:\). For paediatrics, the useful areas are the 'NNU', 'Happy Hippos', 'Safari' and 'Joint neonatal service' folders. These are located S:\WCSH\

NNU—the main paediatric doctors folders.

- 1 Handover (were the paediatric and neonatal handover lists live)
- 2 NICU Guidelines (current guidelines for neonatal—local and St Thomas')
- 3 Useful letters (referral form templates)
- 4 Breastfeeding support
- 5 Audit (Can be used for shared audit data)
- 6 Doctors (Can be used for your own letters can be shared— you also have your private P:\ drive)
- 7 Registrar Rota
- 8 Patient Referral and Transfer Letters (Please place completed letters if not done on iCare)
- 9 Diabetes guidelines (local, South Thames Retrieval Service and BSPED)
- 10 Teaching (storage of previous presentations and list of upcoming teaching)
- 11 Patient Information
- 12 SIM (SIM cases)
- 13 STRS (South Thames Retrieval Service guidelines—STRS website / app more up to date)
- 15 Evelina Paeds Guidelines (current ECH guidelines)
- 16 Paediatric M+M (past presentations for the morbidity and mortality with outcomes)
- 17 QEH Paediatric Epilepsy Service (Contains the Epilepsy database)
- 18 Asthma

Joint neonatal service

Shared with maternity / obstetrics for high risk delivery and M+M meetings

Safari Ward printer

This can be found outside cubical 3 on safari ward. 'qe-safari-a4-05' or MyPrint. This printer is a duplex printer. It can also scan documents / images to your email account, once registered and signed in.

Shifts

Safari/Tiger Long day—SpR and SHO—Ward bleep 6396 (08:30 - 21:00)

Day begins at 08:30 in Dolphins unit Seminar room for Hippos/Safari/Tiger handover. Night team from Paediatric service handing over the oncoming day team and morning teaching.

All inpatients handed over and outstanding jobs on the handover lists discussed and updated. Following teaching the Safari Team to the ward round and Hippos team to Hippos. The Safari Ward SHO will hold the paediatric crash bleep (6384) until 12:30 and hand it over to the oncoming late day Paediatric A+E SHO.

For the ward round, we are still paper notes (as of writing this 2021), the notes should be in the trolley by the nurses' desk and the obs charts should be in the slot outside each room (blue ring binders). The Workstation/Computer on Wheels (Cow/Wow), found by the second desk, can follow the ward round (xrays and results). As the ward round continues the Cow can be used to complete the medication TTAs, so these can reach pharmacy before 12:00pm.

To complete the ward round, the medical team and nurse in charge, to do a board round to clarify jobs, plans and possible discharges.

At weekends the Ward team cover Paediatric A+E and carry the emergency bleeps (6222 & 6384).

Paediatric A+E —SpR (bleep 6222) and SHO (bleep 6384)

Monday to Friday there is a long day SpR (08:30-21:00) and late SHO (13:00—22:00) covering the referrals from Paediatric A+E, as well as responding to the emergency bleep.

In the morning the SpR attended the paediatric handover in Dolphins unit Seminar room at 08:30 to take over from the night team the patients in A+E, or to help on Safari/Tiger Ward. The SHO will take handover, and bleep 6384, from the Safari Ward SHO.

Direct referrals to Paediatric team are, but not limited to:

- All non-trauma under 1 year olds,
- All Medical patients if seen by 3 medical professionals over the prior 7 days (i.e. repeat attendances),
- All Medical patients if discharged from the Wards within the last 14 days,
- All Medical GP referrals including UCC referrals,
- All Sickle Cell patients if presentation related to the sickle cell (e.g. pyrexia),
- All oncology patients,
- All Diabetic Mellitus patients if presentation related to the DM (e.g. hyper/hypo glycaemia),
- All passport patients,
- All Blue Call patients (trauma patients care taken over by A+E/Surgical/Orthopaedic),
- If Paediatric A+E nurses are concerned (up to your judgement),

Hippo Unit —SpR and SHO

During the weekdays there is currently one long day SpR (08:30—21:00) and three SHO (Day 08:30-17:00, Long day 08:30-21:00 and late shift 13:00-22:00) Handover is on the Dolphin unit seminar room, handing over expected Hippos patients and job list.

On Hippos there is a 'Chase book' will pending samples (bloods, swabs, urine). This should be checked daily and updated.

Hippo is currently a SDAC—Same Day Assessment unit— for emergency and planned investigation.

Over the weekend there is one SpR and one SHO during the day.

Night Team Paediatrics (20:30—09:00) - SpR (Safari/Tiger/A+E), SHO (Safari/Tiger/A+E)

At night, Safari/Tiger wards and paediatric A+E are covered by one SpR (bleep 6222) and one SHO (bleep 6384). The shift begins in the Safari doctors office for handover from the Safari ward team. High risk / critical ward patients are reviewed before taking handover from the paediatric A+E day team in A+E.

Neonatal / SCBU—Day

Weekdays there is one SpR—bleep 6333 (08:30-21:00) and three SHOs—bleep 6383 (LD SCBU 08:30-21:00, SD SCBU 08:30-17:00, Postnates 08:30-17:00). The shifts start at 08:30 in the SCBU/ Neonatal Handover room, for handover from the night team. Following the handover and teaching, the SpR, LD SCBU SHO and consultant will continue to the ward round, with the SD SCBU and Postnates SHO to go to Ward 7 / Labour ward / Greenwich Birth centre to review the postnatal babies and NIPE/baby checks. The postnatal SHOs can organise the jobs as they wish, however, it is suggested that one person goes through the NIPES and the second carries the delivery bleep (6383) and starts on the postnatal review list. At 16:30 to 17:00 the postnatal team to handover to SCBU LD on the Neonatal unit with the handover list updates and jobs to do highlighted. At 17:00 the SHO delivery bleep will be passed to the LD SCBU SHO.

On weekends there is one SpR (08:30-21:00) and two SHOs (LD SCBU 08:30-21:00, Postnates 08:30-21:00 at 17:00 to go to Hippos until shift ends). Again shifts start at 08:30 in the SCBU/ Neonatal Handover room. On weekends it is advised the LD SCBU SHO carries the SHO delivery bleep 6383 for the day.

For postnates, there is a green ring binder on ward 7 for the list of NIPES for the day, the list is created each day by the midwives. The review list is from the neonatal handover list and any the transition nurses on Ward 7 or the midwives want reviewed.

For the SHOs, don't forget we do not expect you to know ANYTHINGS to begin with, ask as much as you need. With deliveries take the SpR or experienced SHO with you to begin with. With ward 7, please call for help early if the jobs are increasing, so the SCBU team can organise the long day better.

Neonatal / SCBU—Night (20:30-09:00)

At night the team is one SpR (bl 6333) and one SHO (bl 6383). The shifts start and end in the SCBU handover room. There is no official ward round at night, although it is advisable for the team to review the babies in room 2 (Hot room). As most of the routine neonatal unit jobs are scheduled for the night team, if the postnatal team can keep night jobs to a minimum. There will be some that cannot be, i.e. gentamicin and jaundice levels, if the rest can be for daylight hours.

As with other neonatal units certain days there are certain jobs. Tuesday night bloods night for premature and long stay babies, Wednesday and Saturday nights are weight nights (results to be recorded in the daily summaries and plotted). The daily summary sheets are to be filled in and printed off overnight, for the morning ward round. Any blood results to be updated in the bloods folder. Day and night if the Badger summaries are updated as the stay progresses, to make it easier for the team on the day of discharge.

'Crash calls / Emergency bleeps' – 2222 calls

Paediatrics and Neonatal have a number of different emergency bleep / calls with different teams responding.

- Neonatal Emergency
Neonatal SpR (6333), Neonatal SHO (6383) and Neonatal Sister/Charge Nurse (6386)
- Category One Section
Neonatal SpR (6333), Neonatal SHO (6383) and Neonatal Sister/Charge Nurse (6386)
- Paediatric Blue Light
Paediatric SpR (6222), Paediatric SHO (6384)
- Paediatric Emergency / Cardiac Arrest (also activated for Paediatric Trauma)
Paediatric SpR (6222), Paediatric SHO (bl 6384), Anaesthetic Team, Resuscitation Officer, Porter, ED Paediatric Sister / Charge Nurse

Please note there is no separate Paediatric 'Trauma call' – if the Emergency Department declare a Paediatric Trauma, 2 calls activate the Trauma Team and the Paediatric Emergency Team.

It is expected rapid response, by the appropriate team members, once the call is received. If this is not possible, which sometimes it may not be for example multiple emergency calls, either an other suitably qualified member of staff attends or place a second emergency call/fast bleep to the other team. I am aware this sounds like common sense but hasn't happened in the past.

Of note the Neonatal Emergency call does go through to the Paediatric SpR (6222). Although they are not part of the neonatal emergency response team, this is useful for example if two calls go out to the same location or simultaneously, you can respond as a second team may be required.

Calling consultants out of hours and HDU – Who to call

HDU 08:30—17:00 → HDU Consultant

SCBU after 5pm → On call consultant for the night

A&E/Safari/Tiger/Hippo/HDU patient 5pm-8.30pm → Consultant covering Hippo (will be on site)

A&E/Safari/Tiger/Hippo/HDU patient after 8.30pm → On call consultant for night

Criteria for calling consultants out of hours

Junior doctors often have concerns or queries about when they should call the on-call consultant out of hours. If you are worried or need to discuss a patient you should call. The must call criteria are:

General Paediatrics

- Critically ill patient requiring retrieval and/or intubation and/or CPR
- Deteriorating patient
- New oncology diagnosis
- New diabetes diagnosis
- Safeguarding cases
- Child being transferred to another unit for a bed. We are responsible for that child until they arrive at the next hospital and patient selection for transfer should be discussed

Neonates

- Deteriorating patient who needs to be ventilated
- Admission who is ventilated
- Preterm delivery <27 weeks gestation
- Infant needing LISA
- Infant needing exchange transfusion
- Infant born with significant congenital anomalies

Criteria for admission to SCBU

Please check with the SpR about admissions and inform the SCBU nurse in charge of possible admission (bleep 6386)

- Preterm delivery <34 weeks
- Birth weight <1.8kg
- Any infant with
 - Respiratory distress
 - Cyanosis
 - Birth hypoxia (cord pH <7.0 or requiring significant resuscitation)
 - Hypoglycaemia not responding to early oral feeds
 - Shock
 - Convulsions
 - Jaundice requiring phototherapy within the first 24 hours, triple phototherapy or exchange transfusion
 - Neonatal abstinence syndrome requiring oramorph
 - Social concerns requiring immediate removal from mother
 - Congenital malformations requiring on-going support or observation (for example, infants with oesophageal atresia awaiting transfer)
- Medical/nursing staff unhappy with baby

Admission should include a review of the mother's obstetric notes, including antenatal blood results, all ultrasound scans and a full examination.

All babies need an admission Badger



(See Dummies guide to Badger for help).

We are a level 2 LNU (Local neonatal unit) which means we can take babies from 27 weeks gestation and from 800 grams birth weight. Anything under this is transferred to the appropriate level 3 NICU

HDU

As this guide is being revised, the Queen Elizabeth site currently homes a level 2 respiratory HDU, on Safari ward. These patients are looked after by the Safari ward team, and overnight by the Paediatric night team.

During weekdays, there are 2 ward rounds for these patients. The morning one is lead by the HDU consultant, with the Safari Consultant of the Week (CoW) and Safari SpR/SHO. In the afternoon (around 1600-1700) there is a second ward round lead by the HDU consultant. During 08:30-16:30 queries on patient care should be directed to the HDU consultant. Out of these hours queries on patient care are the same as the Safari / Tiger patients ([See page 10 who to call](#)).

During the weekend the HDU ward rounds are incorporated into the Safari Ward round.

Criteria of inclusion for HDU:

- All tracheostomy patients
- All CPAP / NIV patients

Hippo

In order to reduce inappropriate attendances to Hippo the following is suggested:

- Every Patient who attends Hippo ward should have a clearly identified Consultant. New patients will be seen under the name of the duty Hippo Consultant. If they are brought back to Hippo for the same problem they will remain under the care of the first Consultant. Old patients will remain under their existing Consultant.
- No patient to be brought back more than once without being seen by a Consultant
- If patients are brought back to Hippo then it is the responsibility of the original Doctor to ensure the notes are requested for the follow up visit.
- The maximum number of Reviews is three per day. The maximum number of planned procedure appointments is four per day
- Patients should only be brought back for review if discussed with a Consultant. The patient's details will be placed in the diary, an appointment will be made on iCare and the notes will be requested. The name of the referring Doctor will go into the diary together with the name of the Consultant with whom the patient was discussed.
- No Reviews at Weekends
- Avoid reviews on Wed p.m. – as there is a likely shortage of SHOs due to GPVTS teaching.
- Encourage follow up of patients with the G.P., CCNT etc.
- Patients who need hospital follow up should be referred to Outpatients follow-up

Referral

If possible referral to be made internally to the appropriate paediatric consultant/service. If needing to refer externally for either investigations (e.g. EEG / MRI) or opinion (e.g. ophthalmology / paediatric surgery) to be discussed with SpR / consultant. For investigations or outpatients can you have the return address to the paediatric secretaries at lg.qeh-paedmedsecs@nhs.net

- EEG— Outpatients mainly requested to Kings at kch-tr.neurophysiology@nhs.net Form is 'OP - EEG REQUEST FORM KINGS'
Can also request to Evelina if known to ECH neurology team. Email gst-tr.paediatricneurophysiology@nhs.net and form is 'Evelina EEG EMG Request Form'
- EEG— Inpatients requests to King's only form 'OP - EEG REQUEST FORM KINGS'. Ring neurophys SpR on 07528 977 508
- First Seizure— for NON-provoked seizures—internal referral form can be found on the shared drive under "3 Useful letters" First seizure QE
- MRI under GA Head—referral letter to be sent to kch-tr.NeuroradiologyAppointments@nhs.net If over 7 years old and will stay still the request can be on the QE system.
- Ophthalmology— Tuesdays Mr Hakim (Consultant Ophthalmology) does the ROP screening on Neonatal. He is our link at St Mary's Sidcup. Referral letters to be emailed to his secretary el-lie.rennison@nhs.net 0203 961 3431
Urgent referrals to Kch-tr.urgenteyesqms-referrals@nhs.net who will triage on the day and ring the family
- Neurosurgery— As will adults the king's online referral and ring the NS SpR on-call if urgent. <https://nwww.ihtl.nhs.uk/neurosurgery/>
- Liver — Paediatric liver team is at King's—urgent referrals to the paediatric liver SpR via King's Switch
- Surgical—Please see current posters in paediatric A+E and Hippos for acute referrals. All routine referrals to the Evelina surgical team as they have a satellite clinic at QE.
- Skeletal surveys—for child protection. Consent for to be filled in firstly. Then on request of treating consultant request on iCare and discuss with Dr Gupta or Dr Beese (Consultant radiologists at QE). Following this bleep 6218 (Radiographer coordinator to arrange a time and date. The Appendix A form '**Appendix A- Inter-provider transfer minimum administrative data set**' needs to be filled in completely (including anything that says optional) and emailed to gst-tr.urgentradiologyreports@nhs.net and ring 020 7188 7188 x 56373 to confirm receipt

Telephone numbers

QEH switch—0208 836 6000

UHL switch— 020 8333 3000

Evelina switch— 020 7188 7188

GOSH switch— 020 7405 9200

King's College switch— 020 3299 9000

St George's Hospital switch— 020 8672 1255

Royal Marsden (Sutton) switch— 020 864 6011 / Help line 020 8915 6248

APPROACH TO RESUSCITATION IS UNCHANGED WITH SUSPECTED / CONFIRMED COVID-19

**Preterm
< 32 weeks**

Place undried in plastic wrap + radiant heat

Inspired oxygen
28-31 weeks 21-30%
< 28 weeks 30%

If giving inflations, start with 25 cm H₂O

Acceptable pre-ductal SpO ₂	
2 min	60%
5 min	85%
10 min	90%

TITRATE OXYGEN TO ACHIEVE TARGET SATURATIONS

(Antenatal counselling)
Team briefing and equipment check
Consider team member vaccination status/
COVID-19 risk profile. Consider PPE.

Birth
Delay cord clamping if possible

Start clock / note time
Dry / wrap, stimulate, keep warm

Assess
Colour, tone, breathing, heart rate

Ensure an open airway
Preterm: consider CPAP

If gasping / not breathing

- Give 5 inflations (30 cm H₂O) – start in air
- Apply PEEP 5-6 cm H₂O, if possible
- Apply SpO₂ +/- ECG

Reassess
If no increase in heart rate, look for chest movement

If the chest is not moving

- Check mask, head and jaw position
- 2 person support
- Consider suction, laryngeal mask/tracheal tube
- Repeat inflation breaths
- Consider increasing the inflation pressure

Reassess
If no increase in heart rate, look for chest movement

Once chest is moving continue ventilation breaths

If heart rate is not detectable or < 60 min⁻¹ after 30 seconds of ventilation

- Synchronise 3 chest compressions to 1 ventilation
- Increase oxygen to 100%
- Consider intubation if not already done or laryngeal mask if not possible

Reassess heart rate and chest movement every 30 seconds

If the heart rate remains not detectable or < 60 min⁻¹ Vascular access and drugs

- Consider other factors e.g. pneumothorax, hypovolaemia, congenital abnormality

Update parents and debrief team
Complete records

APPROX 60 SECONDS

MAINTAIN TEMPERATURE

AT ALL TIMES ASK "IS HELP NEEDED"

PHASE 1

Conversations and decisions on emergency treatment completed and documented

Recognition and treatment of the sick and deteriorating patient
Use of PEWS scores and treatment of peri-arrest situations

DNACPR

No

Yes

End of life care

Recognise cardiac arrest

Call for help 2222

Commence/continue CPR
(5 initial breaths then CV ratio 15:2)

Attach defibrillator/monitor
Minimise interruptions

Assess rhythm

SHOCKABLE
VF/Pulseless VT

1 shock 4 J kg^{-1}

Immediately resume CPR
for 2 min
Minimise interruptions

After 3 shocks give:

- Adrenaline IV/IO 10 mcg kg^{-1} (and every alternate cycle thereafter)
- AND
- Amiodarone IV/IO 5 mg kg^{-1} (and repeat 5 mg once more only after 5th shock)

Return of spontaneous circulation (ROSC)

Post cardiac arrest care:

- Use an ABCDE approach
- Aim for SpO_2 of 94–98% and normal PaCO_2
- Avoid hypotension
- Targeted temp management
- Glucose control

NON-SHOCKABLE
PEA/asystole/brady $< 60 \text{ min}^{-1}$

Immediately resume CPR
for 2 min
Minimise interruptions

Give adrenaline IV/IO
 10 mcg kg^{-1}
as soon as possible

During CPR

- Ensure high quality chest compressions are delivered:
 - Correct rate, depth and full recoil
- Provide BMV with 100% oxygen (2 person approach)
- Provide continuous chest compressions when a tracheal tube is in place.
- Competent providers can consider an advanced airway and capnography, and ventilate at a rate (breaths minute^{-1}) of:

Infants: 25 1–8 years: 20 8–12 years: 15 > 12 years: 10–12

- Vascular access IV/IO
- Once started, give Adrenaline every 3-5 min
- Maximum single dose Adrenaline 1 mg
- Maximum single dose Amiodarone 300 mg

Identify and treat reversible causes

- Hypoxia
- Hypovolaemia
- Hyperkalaemia, hypercalcaemia, hypermagnesaemia, hypoglycaemia
- Hypo-/hyperthermia
- Thrombosis – coronary or pulmonary
- Tension pneumothorax
- Tamponade – cardiac
- Toxic agents

Adjust algorithm in specific settings (e.g. special circumstances)

PHASE 2
at least Level 2 PPE

Hopefully this guide helps for your next few months, until you get the feel of the land. Again if unsure please ask.

This is a work in progress as all induction packs should be. Any comments / corrections /additions please tell us, to help the next lot.

Welcome to QE Paediatrics.