TRANSFERRING A PATIENT

DEFINITIONS

- Inter-hospital transfer: Taking a patient to a different hospital e.g. neurosurgical centre
- Intra-hospital transfer: Taking a patient somewhere else within the same hospital e.g. CT scanner
- Clinical transfer: Patient transferred to continue or enhance their clinical care
- Non-clinical transfer: Transfer will not affect patients clinical care e.g. ICU is full and cannot accept patient

THE DECISION TO TRANSFER

- This is a real MDT decision - no-one should be flying solo on this one
- Must include a senior clinician, typically a consultant
- There are strict transfer protocols regarding what should be transferred and when…does the receiving hospital need to agree in advance or not etc
- Best practise is usually bilateral agreement by 2 consultants (one from transferring hospital and one from the receiving) prior to transfer - make sure this is documented

PRE-TRANSFER STABILISATION

****No-one gets better during transfer****

- Typically a patient should not be transferred until they are adequately resuscitated
  - There are exceptions eg. Ruptured AAA
  - Sometimes nothing will make the patient better except the care at the other end BUT… you need to be confident they'll survive - this is your consultants decision.
- The best transfer is a boring transfer
- It is really hard to make major interventions when on the road - do everything you possibly can NOW before you go!

PRE-TRANSFER STABILISATION

- **A:**
  - The safest airway is an intubated one
  - Have a very low threshold for securing an airway -
    - Not only GCS <8 BUT is it rapidly falling?
    - Will the patient be compliant during transfer?
    - Could it be a tricky airway? Best secured when there is backup at hand
    - The transfer must be safe for both the patient AND you

PRE-TRANSFER STABILISATION

- **B:**
- If ventilated: Is PaO2 and PaCO2 acceptable? Can ventilation settings be optimised?
  - Are they established on the transfer ventilator with a satisfactory ABG?
  - If unventilated: Are they expected to remain stable for the duration of transfer? Are they tiring? Do they need securing on a ventilator first?
  - A pneumothorax will only get worse - do you need a chest drain?
    - Any air pocket e.g. PTX will expand at altitude!

PRE-TRANSFER STABILISATION

- **C:**
  - Adequate access? On the accessible side of the patient?
  - Do they need central access?
  - MAP stabilised with inotropes/vasopressors if required?
  - Best form of monitoring is continuous ie. arterial line… HOWEVER… this won't cure them. Wasting hours failing to place an arterial line helps no-one.
  - Do they require a transfusion first?
  - Have you stopped any bleeding? If the bleed is why they're being transferred, have you done all you can to minimise it e.g. TXA, pelvic binding, splinting long bone fractures etc

PRE-TRANSFER STABILISATION

- **D:**
- Consider temperature - it can get very cold in an ambulance / outside
- Glucose? Does it need monitoring or controlling?
- GCS - is it stable? Is it expected to change? Do they need to be anaesthetised and put on a ventilator?
- If they are anaesthetised - are they adequately anaesthetised?
  - They will be paralysed so ensure you have enough propofol (or equivalent) to satisfactorily keep them asleep.
  - NB: You won't have any depth of anaesthesia monitoring so err on the side of caution proving adequate CV stability
- Take extreme caution in 'sedating' a patient - it is a risky game to play

WHAT TYPE OF TRANSFER?

- What urgency?
  - Blue light / time critical
  - Within 1 hour
  - Within 4 hours
  - Within 12 hours
- Who is accompanying?
  - Level 1: At risk of deterioration - needs can be met by standard acute ward care. Needs paramedic +/- nurse
  - Level 2: Requiring single organ support. Must be accompanied, typically by a doctor or highly trained HCP e.g. ACCP
  - Level 3: Intubated or needs 2+ organ support. Must be accompanied by qualified and airway trained individual

MONITORING

- Is the patient anaesthetised?
  - Full standard AAGBI monitoring is required
  - Capnography is your best friend
- Establish your monitoring prior to departure
- Is additional monitoring needed for transfer e.g. A-line, CVP, cardiac output monitoring etc
- Ensure adequate power supply to your equipment!
  - Plugs and charging cables
  - Battery packs

DRUGS

- What you need
  - Anaesthetic agent - probably propofol
  - Analgesic - bolus or infusion
  - Relaxant
  - Any ongoing inotropes/vasopressors
  - Minimise unnecessary drugs or infusions for the transfer
- What you MIGHT need
  - Anticholinergics - atropine, glycopyrrolate
  - Adrenaline - strong and dilute (100mcg/ml and 10mcg/ml)
  - Any other case specific drugs
- Spares!
- Careful with controlled drugs

EQUIPMENT

- Use dedicated transfer equipment as there are specific needs
  - Robust, durable and lightweight
  - Long battery life with spares / cables
  - Can display all monitoring on 1 screen
  - Audible and visual alarms
- Keep everything locked in place below the level of the patient when they are in an ambulance
  - Allows access for you to the patient
  - Prevents anything flying about when ambulance is moving

WHAT YOU NEED FOR YOURSELF

- Appropriate clothing
  - Warm coat
  - Hi Vis Jacket
- Phone with battery
- Food - you might be a while
- Money
- Contact details
  - Where you're going
  - Who you need to ask for help

THE AMBULANCE - WHAT IS AND ISN'T THERE?

- Most commonly - local ambulance service provides the transport
  - Type B provision
    - 12V electric sockets
    - Oxygen
    - …Not much else
- Everything except the oxygen supply must be provided by the transferring hospital
  - And you need enough bottled oxygen to get onto and off of the ambulance
- Gravity based drips are unreliable during transport - use syringe drivers and pumps wherever possible
- You MUST stop the vehicle before attending to the patient during transfer - it is unsafe to you and the patient to be standing and moving around while ambulance is in motion

PRE-DEPARTURE CHECKLIST

- Every hospital will have their own version of this
- Make sure you use it! Even for a 'simple' CT transfer, there will always be something you have forgotten
- Will ensure you have completed the 'above'
  - Patient stable and prepared
  - Appropriate monitoring, equipment
  - Suitable staff
  - All necessary parties aware of situation
  - etc…
- Also… provides useful form of documentation as proof of what you have done
- Familiarise yourself with your hospitals checklist early on! You don't want to be seeing it for the first time on the day of transfer

DOCUMENTATION AND HANDOVER

- Often overlooked but REALLY important!
- Can be daunting handing over, especially to a specialist consultant BUT…
- Whoever you are leaving your patient with, needs the information required to be able to care for them - they can only do this if they have all the facts
  - You are the only person who can give them this information
    - Photocopies of all notes prior to transfer
    - Detailed record of patient observations and interventions during transfer
    - A full SBAR handover of this patient

SPECIAL CIRCUMSTANCES - NEURO

- Some key differences with 'neuro patients' / suspected raised ICP
  - Head up 30 degrees if trolley will allow
  - Tape the tube don't tie (allows better venous drainage from brain)
  - Closely monitor and optimise CO2 - 4.5-5kPa
  - Keep PO2 >10
  - Keep MAP >90 to ensure cerebral perfusion
  - Closely controlled glucose
  - Therapeutic hypothermia is unlikely to be possible but ensure there is not excessive warming e.g. hot ambulance or excessive blankets

SPECIAL CIRCUMSTANCES - AORTIC CATASTROPHES

- Two main types of aortic disasters with VERY different transfer protocols
  - Ruptured AAA: Patient must get to vascular centre ASAP
  - Does not need an escort - paramedic to blue light transfer ASAP
  - Do not waste time optimising if it will delay transfer
- Thoracic aneurysm or dissection
  - Optimising is key and delays to do so are acceptable
  - Permissive hypotension is often employed
  - May involve anaesthetic or critical care transfer

SPECIAL CIRCUMSTANCES - PAEDIATRICS

- Very likely to utilise a retrieval team e.g. SORT - you optimise the child at hospital while a specialist team comes to collect them
  - Make sure you know your local policies so you know what to do in a crisis and who to contact
  - May include: Consultant anaesthetist, consultant intensivist, paediatric retrieval team, local PICU etc
- Occasionally not possible due to urgency of transfer e.g. neurological indications but don't worry…
- You will be VERY senior before undertaking a solo paediatric transfer!

SOME FINAL KEY PRINCIPLES

- Preparation is the key to everything in a transfer
- Make sure you know where you are going and that they are expecting you
- If in doubt, intubating is usually a reasonable idea
- Never let anyone push you into transferring a patient if you don't feel comfortable - there is always a senior to turn to
- IF you are going to be doing the transfer - for that transfer…you are in charge (although you can still call for help if you want it)!
  - Don't let anyone push you into rushing, or making decisions that you aren't comfortable with
  - If you want a certain drug or piece of equipment, make sure you have it
  - You are a highly experienced and educated doctor. Your decisions are valid.