



North West London Critical Care Network Adult Critical Care Record of Transfer

Escorting Dr
Destination
Hospital no
Surname
Date

1 Who?

NHS/Hospital/AE number	Address
Name	Post code
Date of Birth / / Age	Next of Kin
<input type="checkbox"/> Male <input type="checkbox"/> Female	Phone

← Please fill in counterfoil

2 Where?

Referring	Receiving
Hospital	Hospital
From <input type="checkbox"/> Ward <input type="checkbox"/> Theatre <input type="checkbox"/> ICU <input type="checkbox"/> HDU <input type="checkbox"/> A&E Other	To <input type="checkbox"/> XRay <input type="checkbox"/> Theatre <input type="checkbox"/> ICU <input type="checkbox"/> HDU <input type="checkbox"/> A&E Other
Consultant	Consultant
Staff arranging transfer	Staff accepting transfer
Name Ext/Bleep Speciality Grade	Name Ext/Bleep Speciality Grade
Phone	Phone

3 When?

Incident	Outbound	Return
/ / :	:	:
Arrival in hospital / / :	Ambulance contacted :	:
Intubation / / :	Ambulance Reference	
Decision to Transfer / / :	Ambulance ETA	
Recipient contacted / / :	Ambulance arrival	
Transfer agreed / / :	Depart referring	
	Arrival at destination	

There is no need to enter an exact time for any event which occurred >48h before transfer.

4 Why?

Type and Reason for transfer	Working Diagnosis
<input type="checkbox"/> One way <input type="checkbox"/> Return <input type="checkbox"/> Emergency <input type="checkbox"/> Very Urgent <6h <input type="checkbox"/> Urgent <24h <input type="checkbox"/> Elective/Scheduled <input type="checkbox"/> Repatriation <input type="checkbox"/> Non clinical ICU HDU No bed <input type="checkbox"/> <input type="checkbox"/> No staff <input type="checkbox"/> <input type="checkbox"/> No Equip <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> Tertiary referral Imaging Medical <input type="checkbox"/> CT <input type="checkbox"/> Renal <input type="checkbox"/> MRI <input type="checkbox"/> Cardiology <input type="checkbox"/> Angio <input type="checkbox"/> GI or Liver Surgery <input type="checkbox"/> Neuro <input type="checkbox"/> Cardiothor <input type="checkbox"/> Burns <input type="checkbox"/> Vascular <input type="checkbox"/> Spinal <input type="checkbox"/> Liver Other

5 Background

Allergies None known

Medications (include antibiotics)
 Tetanus toxoid

Past Medical History
 COAD Asthma Stroke BP Diabetes
 Dialysis Cancer Dementia MI Pacer
 Other

Last oral intake

Events Trauma

6 Status and Support

Airway Facemask Nasal mask
 ETT Tracheostomy

Indications for Intubation
 Cardiac arrest Resp arrest ↓GCS
 Ventilatory failure Hypoxia Burns
 Surgery Tube in situ For transfer
 Other:

Preintubation	HR	BP	RR	SpO2

Induction IV Gas Cricoid
 Mask ventilation Easy Difficult Impossible
 Complications ↓BP ↓SpO2 CPR

Grade 1 2 3 4

Tube Size Tube Length

Breathing O2 CPAP NO
 Ambu Waters IPPV

CVS IABP ECMO
 Inotropes Pacing wire IVAD

Disability (Preintubation) Gag

Pupils (mm)	GCS/15
R L	
Plantars	Verbal/5
R L	
Best Motor/6	Eyes/4
R L	

Infection status MRABC MRSA VRE C Diff
 Cultures Blood Sputum Urine CSF

Positive Micro

7 Observations

Dep	Arr	Drugs	Time	Total
T°C				
Hb				
Plat				
INR				
APTT				
Fib				
Na				
K				
Creat				
Gluc				
Bili				
PaO2				
PaCO2				
BE				

Events

- HR
- ↑ BP
- CVP
- × RR
- ▲ Temp °C

Lines Art CVP PA Periph

Monitoring
 ECG
 NIBP
 IBP
 CVP
 ICP
 SpO2
 FECO2
 FiO2
 Paw
 VT
 Peep
 Pupils (mm)
 GCS
 IV Fluids
 Urine Out

Pupil Diam (mm)
 8 ●
 7 ●
 6 ●
 5 ●
 4 ●
 3 ●
 2 ●
 1.5 ●
 1 ●

8 Pre-Transfer Checklist

Airway:
 Airway secure
 ETT is ok on CXR?
 C Spine clear/immobile

Breathing:
 OK on Transport vent
 ABGs & CXR ok
 Drains unclamped

Circulation:
 Vital signs stable
 Well filled
 No bleeding
 IVI through dead space

Disability:
 Sedation / relaxants ok
 Pupils ok (check GCS)

Exposure:
 IV access x2 ok
 Fractures stable (if any)
 Pt secured on trolley
 Fluids/Renal:
 Catheterised
 Gut:
 NGT/OGT checked

Haematology:
 Blood products

Infection:
 Antibiotics given
 Cultures taken
 Just in Case: Emergency Drugs

Kit Check:
 Ventilator
 Transfer bag
 Batteries ok, Leads
 Inverter & adaptor
 Suction

Lab Results
 Hb >7
 Blood glucose >4
 K 3.5 to 5.5
 pH >7.2 and BE +/-5

Monitoring
 Notes and Scans
 Oxygen - sufficient for journey x2 +1h?

Phone
 Mobile phone
 Contact destination

9 Escort Personnel

Doctor
Speciality

SHO SpR1-2 SpR3+ Fellow NCCG Cons
 Transfer Trained No transfer training Est Number of previous transfers

Nurse/ODP
Speciality

Band
 Transfer Trained No transfer training Est Number of previous transfers

10 Summary of transfer

Comments of escorting doctor

Critical incident
 Yes No
 Respiratory
 Circulatory
 Neurological
 Drug related
 Equipment problem
 Organisational
 Trauma/Injury

Minor & brief
 Compromising
 Life threatening
 Fatal
 Battery failure
 Transfer specific problem
 Critical incident form completed

Signed _____ Date / /

Comments of receiving doctor

Patient condition consistent with expectations
 No apparent deterioration during transfer

Signed _____ Date / /

Name (Please print) _____ Time : /

INSTRUCTIONS
 Please complete the times (box 3) and fill in arrival ABGs (box 7) before signing off.
 When you have completed the form, please put:
 * Top (white) sheet in the patient's notes at the receiving hospital.
 * Middle (pink) sheet should be folded and placed in hospital mail to be delivered to the NWL network.
 * Bottom (blue) sheet goes in the patient notes at the hospital the patient came from.
 Thank you for your efforts.

This is the legal documentation of the transfer Please complete all sections as fully as possible

Top copy **White** Receiving Hospital Notes Middle copy **Pink** To Network Bottom copy **Blue** Referring Hospital Notes

This transfer form...

Q. *Why do I have to fill out this form?*

A. It is now a requirement that the transfer of critically ill patients is documented. Without it neither trusts nor doctors have any defence in the face of mishap. Good documentation protects the people undertaking transfers. We also hope that the form will help ensure that transport escorts are aware of all relevant conditions before getting into the intrinsically harsh environment of an ambulance - not the place to discover an allergy documented illegibly on a scrap of paper you haven't read. [ICS §14.7, §18, Appendix 5]

Q. *What happens to the copy which goes to the network?*

A. The form allows the network to know if there are problems with the transfer process or, for example, bed provision. This informs the commissioning of critical care beds and services. Overtime, we have reduced the need for non clinical transfers and increased bed provision at many sites.

Q. *When should I fill out the form?*

It is worth starting the form once the need for transfer has been identified. Apart from documenting the transfer, the form should help you to make effective referrals with all information at your fingertips.

Q. *Do I need a transfer letter as well?*

A. YES. This form is NOT a substitute for a transfer letter, which is required to give a detailed description of the events leading up to admission, examination findings, past medical history, investigations and treatment. The referring medical or surgical must write this. A copy of the notes, recent X-rays, CT scans and current lab results must also go with the patient.

The transfer form boxes

Box 1. The post code helps determine if large numbers of out of area patients are being treated.

Box 2. Please fill this in as completely as possible. The destination is the place where you relinquish care for the patient hand over and detach your equipment - if the patient goes to theatres then ICU, the destination is theatres. If you go via A&E to ICU, the destination is ICU. The named consultants should be the responsible ICU consultants, AND any other consultant under whose care the patient falls (eg surgeon)

Box 3. Please put in all timings. The ambulance references should be included for your reference, and will also help seniors to chase up any delays or incidents.

Box 4. A non clinical transfer occurs when a patient is transferred because there is no bed, nurse or equipment (please comment what was lacking). Repatriation occurs when a patient is transferred either back to a hospital from which they were transferred out, or when they are transferred to a hospital nearer home. If two categories apply (eg Repatriation and lack of beds) then tick both boxes.

Box 5. This obviously lists the basic ATLS dataset vital for patient safety. Please remember to list antibiotics given, and their timing.

Box 6. Summarises the interventions which have been made, the support the patient requires, and essentially the neurological status of the patient immediately prior to intubation - this may be of vital prognostic importance.

Box 7. The observation chart. Please tick all the lines and monitoring used, and enter the number of days the lines have been in. If the lines were inserted in suboptimal conditions (emergency, on normal ward, etc) then please draw attention to this in the comments area. Before departure you should read the checklist on this page and tick the "Checklist done" box. You should start the observations before the transfer to verify stability. Make sure that you check ABGs just before departure and immediately after arrival - this will help identify rapidly any sequelae of the transfer.

Box 8. Complete the checklist prior to departure.

Box 9. Verifies your identity and the level of training and experience you have of transfers.

Box 10. Both the transferring and receiving doctors should sign off the transfer. Make sure you indicate whether any incidents occurred - if there were problems you must fill out an incident form at your home hospital. Transfer specific incidents are those which could only occur during a transfer, such as hypotension on acceleration, falling equipment, fall from trolley, vehicle crashes.

Transfer Politics

Q. *Who decides?*

A. The decision to transfer a critically ill patient is always a balance of the associated benefits and risks, and **must be made by a consultant in intensive care medicine** in discussion with consultant colleagues from the referring and receiving hospitals. **The final decision to accept a patient lies with the ICU consultant in the receiving hospital.** At the same time **the final decision as to which patient should be transferred lies with the referring ICU consultant. Recipient units should not attempt to put undue pressure on the transferring unit to transfer one patient rather than another. [NWLCCN-A]**

Q. *Who goes? A new unstable patient or an existing stable patient?* [NWLCCN-A]

A. This is a very complex issue. In general patients should not be subjected to any intervention which is not in their best interests. Within the Network established practice is to avoid transferring patients from the safety of ICU unless it is in their own best interests. In certain circumstances it may be more pragmatic to transfer a stable patient, particularly if they may experience some gain from additional expertise available at the receiving hospital (e.g. better cover in some relevant subspeciality, nearer home or relatives). If it is decided that the solution which offers least risk to all patients involves the transfer of a stable patient already in ICU, then you must take the following steps:

- The decision must be taken by the ICU consultant at the referring hospital.**
- Document in the patient notes that the decision has been taken, why, and who by.**
- Write a critical incident form, naming both patients, and the reasons the decision has been taken, and who took the decision.**
- Document in the patient's notes that a critical incident form has been generated.**
- Inform the relatives of the transfer, and the reasons for it. You may refer them to network policy in case of dissent, but if strong feelings are expressed it may be wise to consider other solutions.**
- At the earliest convenient opportunity, inform the ICU director of the transfer and its circumstances [NWLCCN-A §4.2]**

Q. *Who goes (with the patient)?*

A. Critically ill patients must be accompanied by at least 2 **"appropriately experienced attendants, at least one of whom must be a medical practitioner with training in intensive care medicine, Anaesthesia, or another acute speciality"**. [ICS §9]

Q. *Scoop and run or stay and play?*

A. Patients should be meticulously resuscitated prior to transfer, except where this may delay life saving surgical treatment (e.g. Major Trauma, Neurosurgical and Vascular emergencies.)

Q. *Where should patients be transferred?*

A. Each hospital should have arrangements in place to ensure that transfers for capacity reasons alone occur only as a last resort. Where necessary the transfer should be to the most appropriate hospital for the needs of the patient, taking account of bed availability and transfer distance. Likely receiving hospitals should be included in the referring hospitals designated transfer group. **Any transfer solely on the basis of capacity beyond this is classified as an adverse clinical event and must be reported through the ICU director to the chief executive at the referring hospital.** [ICS §5-6]

Transfer Practicalities

Q. *Who is responsible for the transfer?*

A. The transfer process is the joint responsibility of the referring and receiving clinicians. The medical staff at the receiving hospital may offer advice on management, but **patient management is always ultimately the responsibility of the doctor in attendance.** [ICS §10.3]

Q. *Who should be intubated?*

A. Intubation is mandatory if there are concerns about the integrity of the airway or ventilation. Intubated patients should be paralysed, sedated and ventilated. [ICS §13.4]

Q. *Who should have a chest drain?*

A. Anyone who has or is suspected of having a pneumothorax. Ideally use Heimlich valve systems in place of underwater seals. Do not clamp drains. [ICS §13.6] If there is a very large leak Heimlich valves have resistance and can lead to tension so use caution, and seek senior specialist advice before embarking.

Q. *What monitoring is necessary?*

A. The minimum standards for monitoring during transfer include the continuous presence of appropriately trained staff, ECG, noninvasive blood pressure, oxygen saturation, end tidal carbon dioxide, and temperature. In mechanically ventilated patients, inspired oxygen tension and airway pressure should be monitored continuously. Invasive arterial pressure should be measured in almost all patients. [ICS §14]

Q. *What else should I do?*

A. Insert an NG or OG tube. Control and carefully correct any electrolyte or metabolic disturbances such as hypoglycaemia, hypokalaemia, or acidosis to normal if possible. [ICS §13]

Q. *What mode of transport should be used?*

A. Road transport is preferable in most circumstances. Fixed wing, pressurized air transfer should be considered for journeys in excess of 150 miles. The organisation headaches should not be underestimated. Helicopter transfer is less safe and helicopters are very harsh working environment, however they are useful for short to medium distance transfers or where access is difficult (e.g. remote areas or traffic). [ICS §12]

Q. *Are there any pitfalls I should consider?*

Unfortunately many, here is a selection:

- Undertreatment - it is very difficult to institute new treatment in the ambulance. If in doubt resuscitate, paralyse, ventilate.
- Redistribution of blood volume due to acceleration or up slopes causes functional hypovolaemia, with autotransfusion on braking. It is a good idea to have inotropes/pressors running even at very low dose and relative mild hypervolaemia is usually helpful.
- Monitoring is unreliable: notably NIBP and SpO2.
- The cold. Not only do patients become hypothermic, but peripheral vasoconstriction can precipitate pulmonary oedema, particularly in combination with stress or anxiety.
- Battery failure - many infusion pumps and monitors last <30 mins even fully charged.
- Unrecognised bleeding. Splenic trauma has been neglected many times in combination with head injury.
- Seizures. In the paralysed patient the only evidence may be hypertension.
- Raised ICP. If suspected CPP should ideally be kept >70mmHg and certainly >50mmHg. This implies a need to keep mean BP 90-100mmHg.
- Pretty obvious really - haste, poor preparation, lack of knowledge about the patient, a poor transfer plan....

Equipment

Portable Ventilator

Must be capable of PEEP, and of delivering high inspiratory pressures
Ambu bag with reservoir
Waters bag
Oxygen allow 10-20L/min depending on minute volume, leaks, and FiO2
CD 460L -> 15-30 minutes
E 680L -> 30-60 minutes
F 1360L ->1-2h

As a minimum, you must take enough oxygen for the expected duration of the trip, with a reserve of 100% or 1 hour, whichever is greater.

Monitoring

Mains and Battery powered Monitor with ECG, SpO2, NIBP, ETCO2, and at least 2 invasive channels. Leads. Battery should be fully charged
Glucometer
Even for short transfers a 12V DC to AC "invertor" (at least 400W) is a must, along with a 4-6 way adaptor

Syringe drivers for all infusions, with at least 1 spare

Airway management

2 working laryngoscopes with size 3 and 4 blades.
Gum elastic Bougie
ETT in a range of sizes (6-9)
Size 6-9 Tracheostomy tubes & with obturators
Size 3 and 4 LMA
Guedel airways Size 2, 3 and 4
Magill forceps
Nasal airways
Tracheostomy dilator

Emergencies

Scalpel
2 Silk sutures (0 or greater)
24, 28 and 32 Chest drains
Sterile scissors and Forceps
20ml Lignocaine 2% with Adrenaline
Cricothyroidotomy kit

Consumables

Syringes 1-50ml
Needles
Giving sets
2 Burrettes
22-14G Cannulae
Transducers and flush lines

Fluids

2-4L Colloid
2-4L Hartmans
2x 50ml 50% Glucose
200ml 8.4% Bicarbonate
250ml 20% Mannitol

Drugs

Take spare syringes of all infusions running
Other appropriate emergency drugs are:

Adrenaline 2-5 mg/50ml via CVP
Noradrenaline 4mg/50ml = 80 µg/ml CVP
GTN 50mg/50ml
Amiodarone 300mg/50ml Dextrose CVP
Labetolol 200mg/50ml
Phenytoin 1g/50ml N Saline CVP
Salbutamol 5mg/50ml
Aminophylline 500mg/50ml
Propofol 1% or 2%
Glucose 50%
Mannitol 20%

Midazolam
Suxamethonium
Atropine
Glycopyrrrolate
Calcium
Metaraminol
Cisatracurium
Insulin

At 1mg in 50ml in a 70 kg person
1ml/h ≈ 0.005 µg/kg/min
20ml/h ≈ 0.1 µg/kg/min

Alternatively:

Place Weight (kg) x 0.3 mg of drug in 50ml
This means Infusion at 1ml/h=0.1 µg/kg/min

Etomidate is controversial. *It may be better avoided because of its adverse effects on adrenal function which are harmful in critical illness, and perhaps more of a worry when a patient is to be transferred.*
Etomidate should not be used in patients at risk of seizures or with neurosurgical patients.

Other Tertiary referral centres

Individual hospitals may have other hospitals within their own transfer groups, but this must be checked locally. Other specialist units include:

Atkinson Morley	Neuro	020 8672 1255
Broomfield, Chelmsford	Burns	01245 443673
Queen Victoria, East Grinstead	Burns	01342 410210
Kings College	Liver Neuro Cardiac	020 7737 4000
National, Queen Square	Neuro	0845 155 5000
Royal Free	Neuro Liver	020 7794 0500
Stoke Mandeville	Spinal	01296 315000

Major Trauma Centre

St Mary's Hospital - Trauma Team Leader

07884238391

References

[ICS] Guidelines for the transfer of the critically ill adult. Intensive care society 2002 (<http://www.ics.ac.uk/icstransport2002mem.pdf>)

[NWLCCN-A] Network admissions policy for adult critical care services. North West London Critical Care Network 2007

North West London Critical Care Network

Consistent with the best interests of individual patients, where possible transfers should be undertaken between hospitals within the NWL Critical Care Network. Priority should be given to patients originating within the network.

The following hospitals are within the North West London Critical Care Network:

Hospitals	Tertiary Specialities	Phone
Central Middlesex		020 8965 5733
Charing Cross	Neuro	020 3311 1234
	Neuro SpR	Bleep 8075 or mobile 07867810453
Chelsea and Westminster		020 3315 8000
	Burns Plastics	020 3315 2500 020 3315 2772
Ealing		020 8967 5000
Harefield	Cardiac and Thoracic	01895 823737
Hammersmith	Cardiac, Liver, Renal	020 3313 1000
Hillingdon (and Orthopaedics at MVH)		01895 238282
Northwick Park & St. Marks	GI Vascular	020 8864 3232
Royal Brompton	Cardiac and Thoracic	020 7352 8121
Royal Marsden	Cancer	020 7352 8171
Royal National Orthopaedic	Ortho Spinal	020 8954 2300
St. Mary's	Vascular Thoracic vascular	020 3312 6666
	Major Trauma Centre	07884238391
West Middlesex		020 8560 2121
Clementine Churchill	Independent	020 8872 3872
Cromwell (L3)	Independent	020 7460 2000
Harley street clinic (L3)	HCA	020 7935 7700
King Edward VII	Independent	020 7486 4411
Lister hospital	HCA	020 7730 7733
Portland	HCA	020 7580 4400
Princess Grace	HCA	020 7486 1234
Wellington (L3)	HCA	020 7586 5959

Queries regarding protocols should be addressed to:

Dr Ganesh Suntharalingam, Consultant ITU, Northwick Park

All other queries should be addressed to the Network Director Angela Walsh (angelam.walsh@nhs.net), c/o Ealing PCT, 1 Armstrong way, Southall, Middx, UB2 4SA. Tel 020 3313 9309

Any serious incident *must* be reported locally to the Clinical director, and details copied to Dr Suntharalingam and Angela Walsh.

Further information is available on the website:

www.nwlcritcarenetwork.nhs.uk

Original form design 2004 by Dr Simon Ashworth, ICU Consultant, St Mary's Hospital (updated by Network 2006, 2008 & 2011).