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Administration of blood components

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Introduction

- British Committee for Standards in Haematology guidelines
- Administration process
- Case study

Who are the BCSH?



- The British Committee for Standards in Haematology (BCSH) is a sub-committee of the British Society for Haematology (BSH)
- The BCSH consists of 4 Task Forces:
 - Haemato-oncology
 - General Haematology
 - Haemostasis and Thrombosis
 - **Blood Transfusion**

What do the BCSH do?



- Primary purpose:
 - To provide up to date advice on the diagnosis and treatment of haematological disease by the production of evidence based guidelines
- Guidelines are drafted by writing groups
 - Involves all relevant stakeholders
 - Reviewed by a wide spectrum of UK haematologists who act as 'sounding boards'

Purpose and objectives

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- Provide national guidance on:
 - Pre transfusion blood sampling
 - Prescription / Authorisation
 - Requesting
 - Collection
 - Administration of blood components to
 - Adults, children and neonates
- Individual Trusts incorporate this guidance into their local and regional policies, protocols and practice

Key recommendations *Blood and Transplant*

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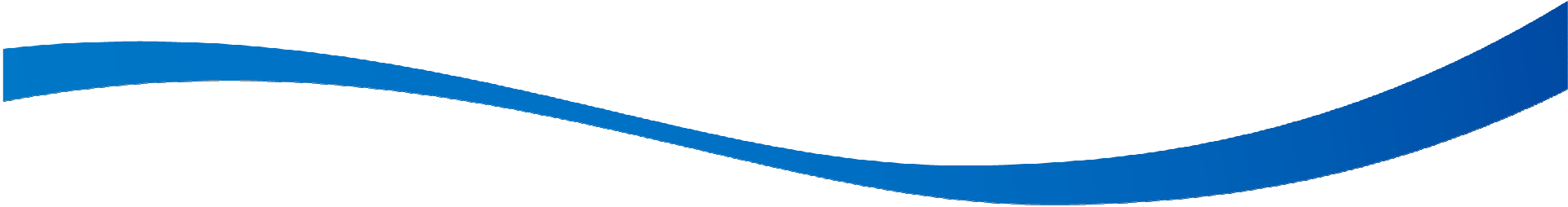
- Keep it simple
 - Try to avoid complexity and concentrate on the key steps
- 3 key principles which underpin every stage of the blood administration process:
 - Patient identification
 - Communication
 - Documentation

Positive patient identification



- At every step in the process
 - Sampling and request form
 - Authorisation
 - Collection
 - Administration

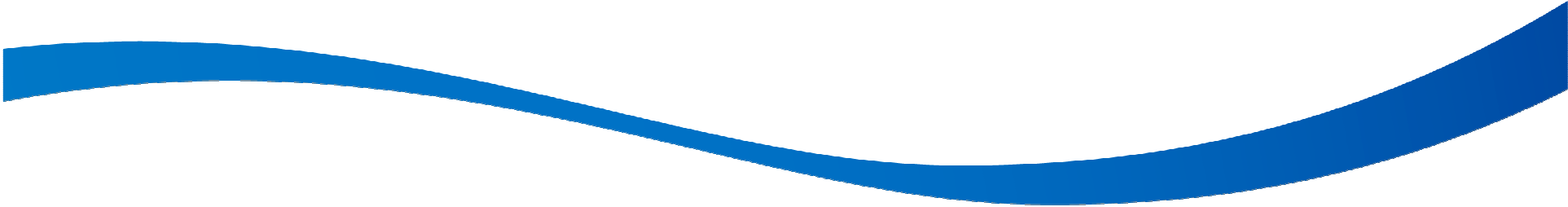
Communication

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- Clear and concise
 - Medical staff
 - Nursing staff
 - Laboratory staff
 - Patient and carers
 - Includes
 - Written
 - Verbal
 - Electronic

Documentation

- All paper work to be identical to that noted on the patients ID band
 - First name
 - Last name
 - Date of birth
 - Unique number

Points to note.....

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- Serious Hazards of Transfusion Report, 2014 states:
 - Transfusions at night must proceed where there is a clear clinical indication and may be given as long as the staffing is sufficient to permit transfusion according to the standards defined in the BCSH guideline on the administration of blood components (BCSH, Harris et al. 2009)

What needs to be documented?

- Clinical indication for transfusion
- Relevant blood results
- Date:
 - Decision made to transfuse
 - Transfusion should be administered (if different)
- Blood component required – type, amount and rate of infusion
- Specific requirements
- Patient information given
 - Reason, risk, benefits and alternatives
- Consent to proceed
- If the transfusion had the desired effect
- Management and outcome of any transfusion reactions or adverse event
 - Note: The clinical management of transfusion reactions is a separate BCSH guideline

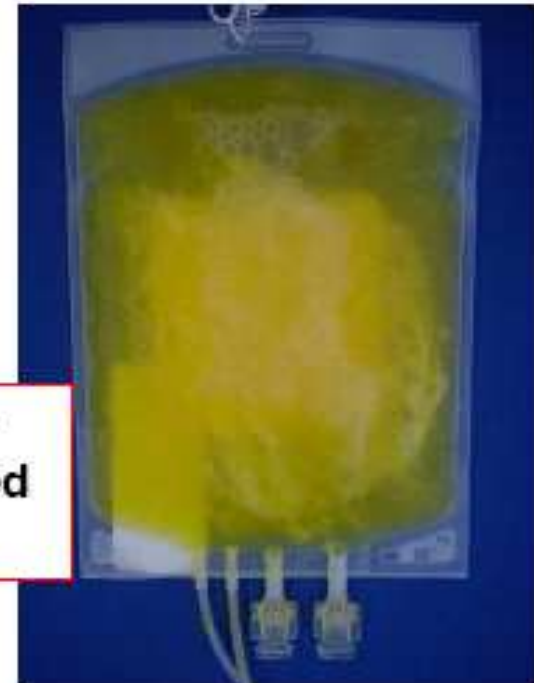
Component checks

- Correct component
- Expiry date
- Donation number and blood group
- Specific requirements
- Visual inspection of the component
 - Leaks / damage
 - Colour / clumps

Contaminated Components



**Clotted
Red Cells**



**Bacterially
Contaminated
Platelets**

Pre-transfusion checks

- Check component prescribed
- Check IV access – patent and appropriate size
- At patient's side
- Immediately before administration
 - Blood component label, patient ID band and prescription
- Patient ID band
 - Securely attached to the patient
- One or two person checker?

Administration

- Usual rates:
 - Red cells: 1½ to 2 hours per unit
 - Platelets: 30 minutes per Adult Therapeutic Dose
 - Fresh Frozen Plasma: 30 minutes per unit
 - Cryoprecipitate: 30 minutes per unit
- Blood component administration set, incorporating a 170-200 micron filter
- No need to prime / flush administration set

Note:

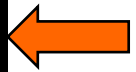
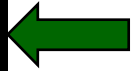
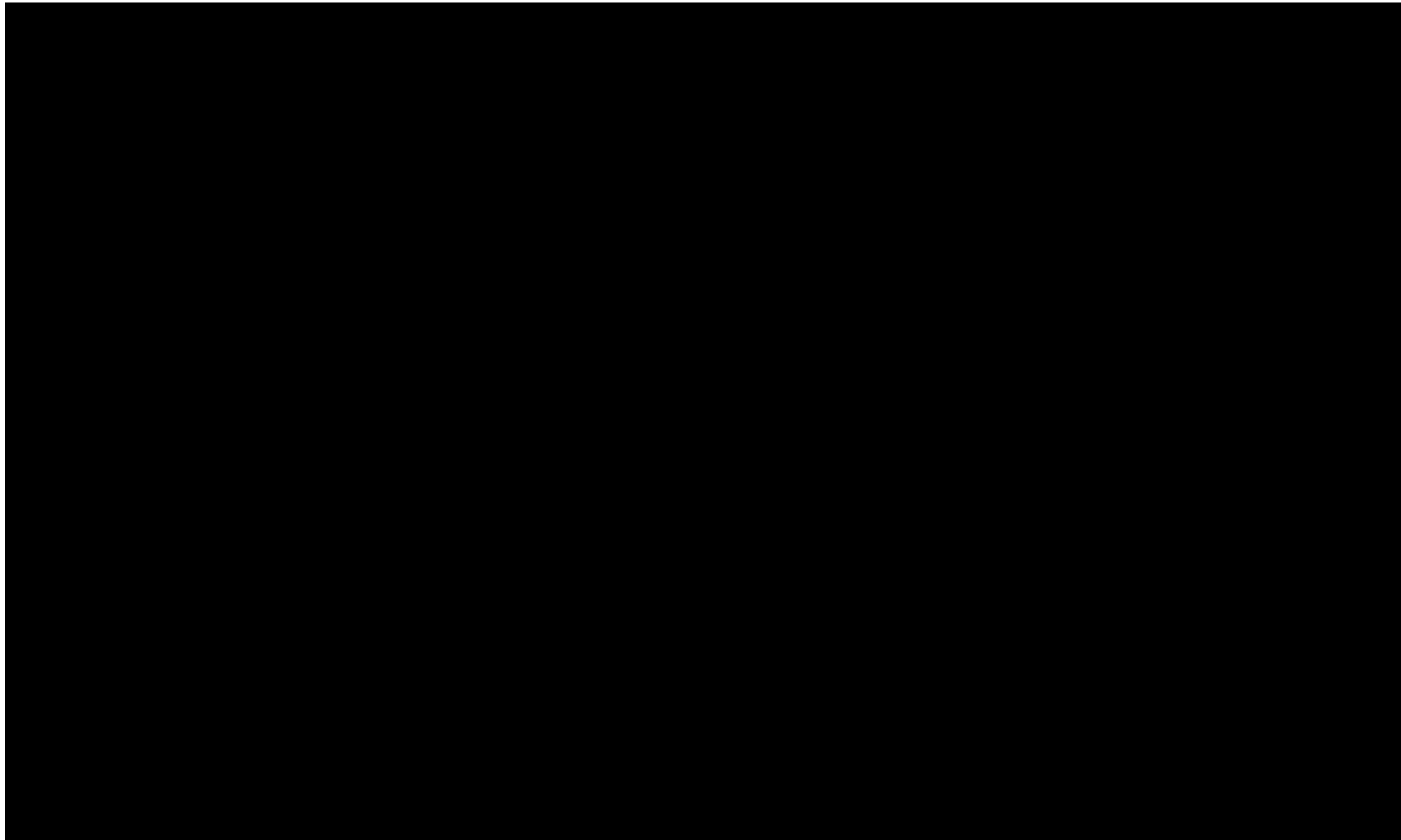
Transfusion should be completed within 4 hours of removal from temperature controlled storage

Observations - minimum

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- Visual observations throughout
- Must be clearly distinguished from other routine observations and filed in the clinical notes
 - Pre transfusion (up to 1 hour), T, P, BP and R
 - 15 minutes after start of the transfusion, T, P, BP
 - On completion of the transfusion (up to 1 hour), T, P, BP
- How good are we at doing this?

National Comparative Audit of Bedside Practice



Post transfusion

- OBSERVATIONS
- Blood Safety Quality Regulations 2005
 - Fate of all blood components
 - 30 years
- Patients, such as day cases, discharged within 24 hours of transfusion should be issued with a contact card giving 24 hour access to clinical advice

Additional information

- Training for all staff involved, minimum 2 yearly
- Competency assessments 3 yearly
- Disposal of empty blood bags
- Giving sets
- Electronic devices
- Pressure devices
- Blood warmers
- Drugs

Case study



Taken from the 2013 Serious Hazards of Transfusion Annual Report

- **Day 1:**

- Patient with Acute Myeloid Leukaemia (AML) seen at 20:00 and prescribed 1 unit of RBCs. Hb 40 g/L in Emergency Department (ED)

- **Day 2:**

- 02:30 transferred with inadequate handover to ward. Nurse **assumed** blood had been given, and ED **assumed** blood bank would phone when blood was ready
- 09:00 consultant haematology review; Hb 36 g/L; **assumed** and wrote in notes that 1 unit of RBCs given in ED, but had not

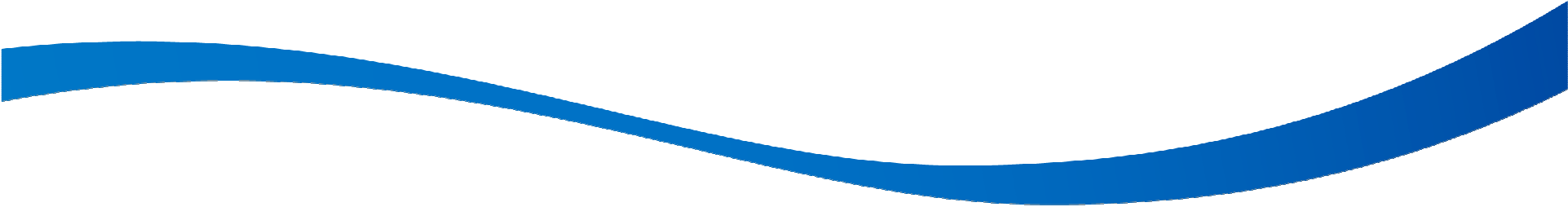
Case study (cont'd)



- 16:30 transferred to another hospital, reviewed and started on chemotherapy at 17:04
- 19:46 acutely unwell, fever, tachycardia and hypoxic. Prescribed antibiotics but not given until 23:50
- 19:50 started 4 units Fresh Frozen Plasma (FFP) for coagulopathy

Case study (cont'd)

- **Day 3:**
 - 00:10 a unit of red blood cells given, **28 hours after prescribed**
 - 02:00 concern about increased respiratory rate, Chest x-ray
 - 06:30 pulmonary oedema from fluid overload (3240mL input over 24 hours)
 - Transferred to Intensive Therapy Unit
 - 4 hour **delay in further FFP transfusion** after prescription
- **Day 4:**
 - Death due to primary illness (AML)

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- Thank you for listening
 - Any questions?