**Audit of pre-operative crossmatch practices
Background**

This audit tool has been designed to help organisations gain an understanding of pre-operative transfusion practice.

Additionally, it can be used to provide evidence that an organisation is working towards/meeting the following [NSQHS Blood management standard](https://www.safetyandquality.gov.au/sites/default/files/2019-04/National-Safety-and-Quality-Health-Service-Standards-second-edition.pdf) <https://www.safetyandquality.gov.au/sites/default/files/2019-04/National-Safety-and-Quality-Health-Service-Standards-second-edition.pdf > criteria:

*Clinical governance and quality improvement to support blood management & managing the availability and safety of blood and blood products - Actions: 7.2, 7.9 & 7.10.*

The tool is designed to determine the crossmatch:transfusion ratio for the area audited. Crossmatched red blood cells (RBC) may remain in blood fridges allocated to the patient for whom they were requested for up to 3 days. After this period the laboratory can accept the RBC back into their inventory if they have been stored and handled correctly and are within expiry.

The benefits of reducing the crossmatch:transfusion ratio include:

* reduced numbers of RBC stored in the blood fridge, which may reduce the risk of collecting the wrong RBC in error
* reducing the workload on hospital staff required to accept, and document RBC into the blood fridge register, monitor and return unused RBC
* more effective and efficient RBC inventory management in the transfusion laboratory to help minimise waste.

**How to use the tool**

The audit tool is designed to be used in conjunction with the blood fridge register. Together these will assist in establishing and documenting the number of RBC:

* stored in the blood fridge
* transfused
* returned to the laboratory (see example below).

The tool is simple in its design so it can be very flexible and used to audit any blood fridge as required within the health service. It can be used to investigate all RBC entered in the blood fridge for a specified period or used to investigate a specific ward or clinical area (e.g. orthopaedic transfusion ordering practice or medical / oncology areas etc). The audit period can be determined by the user (i.e. weekly, monthly etc.) and the tool lends itself to both real time and retrospective data collection.

**Audit tool**

**Clinical speciality/ ward area**: Data collection period **Start date: End date:**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Date | Prescribing doctor | Patient Name / MRN | Number of RBC signed **IN** for patient**C**  | Number of RBC signed **OUT** for patient**T**  | Number of RBC **RETURNED** to pathology**R**  | Pathology provider | **C/T**  |
| *1/3/15* | *ZZZ* | *Simon Blood* | *6* | *2* | *4* | *H pathology* | *3/1* |
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**This audit tool is designed to determine the crossmatch to transfusion ratio.**



**Results**

The crossmatch:transfusion ratio is determined by documenting

* total number of RBC signed into blood fridge = (C)
* total number of RBC transfused = (T)
* total number of RBC returned = (R)

Crossmatched: transfused = C:T

Per cent (%) RBC returned = (R/C) x 100

**Reporting these Results**

These results should be presented to the Blood Management Committee (or equivalent) to review data and decide if any action is required. Re-audit will assist in assessing the effect of action undertaken. The following table is an example of its use.

|  |  |
| --- | --- |
| Clinical specialty/ward area audited | St Elsewhere’s Main Theatres |
| Time period audited | Month of January 2015 |
| Crossmatch:transfusion ratio | 3:1 |
| Number of units crossmatched returned to laboratory | 93 |
| Recommendations: | Review Maximum Blood Order Schedule (MBOS)Set C:T target and monitor as a KPI |

**Considerations**

When introducing actions/strategies aimed at reducing crossmatch:transfusion ratio the following points should be considered:

* Clinical staff require assurance that patient transfusion requirements will be met
* Assessment of previous RBC requirements of particular patient groups (i.e. patients undergoing total hip replacement) can help predict future need and develop or reassess MBOS
* For patients with clinically significant red cell antibodies, RBC should be crossmatched even if the likelihood of bleeding is low, to ensure RBC are available for the patient should they require it unexpectedly
* Turn-around-times to provide compatible RBC should be determined with each supplying transfusion laboratory. These will need to be communicated effectively to clinical staff, along with the possibility of any delays and the action required in these situations
* Emergency group O RBC should be available for unforeseen urgent situations
* Changes affecting policy and practice must be made in consultation with treating clinicians and transfusion service provider(s).

Further assistance is available by contacting Blood Matters: phone: 03 9694 0102 or email: bloodmatters@redcrossblood.org.au