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| **Audit of pre-operative crossmatch practices** |
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**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 (7) 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.

<https://www.safetyandquality.gov.au/sites/default/files/2019-04/National-Safety-and-Quality-Health-Service-Standards-second-edition.pdf>

The tool is designed to determine the crossmatch:transfusion ratio for the area audited. Generally, crossmatched units 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 units back into their inventory provided that they have been stored and handled correctly and are within expiry. The benefits of reducing the crossmatch:transfusion ratios include:

* reduced numbers of red cell units stored in the blood fridge, which may also reduce the risk of collecting the wrong blood product in error
* reducing the workload on hospital staff required to accept, and document blood products into the blood fridge register, monitor and return unused units
* more effective management of red cell inventory in the transfusion laboratory to efficiently manage their red cells and 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 red cells:

* stored in the blood fridge
* that are 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 product 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:**

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| --- | --- | --- | --- | --- | --- | --- | --- |
| Date | Prescribing doctor | Patient Name / MRN | Number of red blood cells signed **IN** for patient  **C** | Number of red blood cells signed **OUT** for patient  **T** | Number of red blood cells **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.**

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**Results**

The crossmatch:transfusion ratio is determined by documenting

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

Crossmatched:transfused = C:T

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

**Reporting these Results**

These results should be presented to the Blood management/transfusion (or equivalent) committee to allow analysis of the data, and action to be taken. Re-audit will assist in assessing the effect of actions undertaken. The following table is an example of an easy to understand format.

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| Clinical specialty/ward area audited | St Elsewhere’s Main Theatres |
| Time period audited | Month of January 2015 |
| Crossmatch:transfusion ratio | 3.6:1 |
| 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 ratios the following points should be considered:

* Clinical staff require assurance that patient blood needs will be met in a timely fashion
* Assessment of previous blood requirements of particular patient groups (i.e. patients undergoing total hip replacement) can be helpful in predicting blood their future use and develop or reassess MBOS
* For patients with clinically significant red cell antibodies red cell units should be crossmatched even if the likelihood of bleeding is low, to ensure the best product is available for the patient should they require blood unexpectedly
* Turn-around-times to provide compatible blood should be determined with each laboratory providing a service and 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 O RhD negative blood should be made available for unforeseen urgent situations
* Changes affecting policy and practice must be made in consultation with treating clinicians & transfusion service provider(s).

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