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A. INTRODUCTION

What are surgical morbidity and mortality meetings?

Surgical morbidity and mortality (M&M) meetings have been taking place in various forms for over a century. Initially they were used as an aid to surgical training, by taking time during the working week to discuss adverse outcomes. In modern healthcare settings, these meetings are no longer just an opportunity to educate trainees. Consultant surgeons, surgical units and hospitals make use of these meetings to learn lessons from clinical outcomes and drive improvements in service delivery. According to Good Surgical Practice (RCS, 2014) all surgeons should regularly attend morbidity and mortality meetings as a key activity for reviewing the performance of the surgical team and ensuring quality. The surgical M&M meeting has therefore a central function in supporting services to achieve and maintain high standards of care.

What can I learn from this guide?

Throughout the UK, practices around the structure and content of M&M meetings vary widely and so does their quality. This document is intended to serve as a practical guide for setting up, running and participating in high quality surgical M&M meetings. It expands on the principles of Good Surgical Practice (RCS, 2014) and complements the College’s guidance The High Performing Surgical Team: a Guide to Best Practice (RCS, 2014), which highlight the importance of regular and effective M&M meetings.

Advice is provided on the following topics:

- Preparation and organisation of meetings to ensure they are well-supported and attended.
- Effective chairing of meetings.
- Types of behaviours that participants should display to ensure discussions are held in an open and inclusive atmosphere.
- Presentation and discussion of cases.
- Ensuring that actions arising from meetings are successfully completed and that lessons are learned and implemented.
In the online version of this guide you will also find a set of templates that can assist teams in running a surgical M&M meeting. These include:

- A sample meeting agenda
- A checklist for the M&M coordinator
- A sample format for case presentation
- A discussion summary recording form
- A reflection log for the individual surgeon

These templates can be adapted by surgical teams to suit their own requirements.
B. ORGANISING A SURGICAL MORBIDITY AND MORTALITY MEETING

Advance preparation and effective organisation is essential for ensuring that the time invested in M&M meetings is productive and leads to quality learning. If meetings are run inefficiently, participants can become disengaged from the process and are less likely to attend consistently and engage in discussions.

Coordination and administrative support

- Surgical M&M meetings should receive administrative support from a dedicated coordinator. This support might be provided by existing administrative staff based within the unit or a dedicated M&M coordinator shared with other units.
- Meetings should take place in a room that is appropriate in size and layout such that all attendees have a seat and are able to see and hear each other and view all presented data including radiological images. The meeting room must have sufficient IT facilities to access and display the necessary case details including images. The room used for the meeting should ideally be the same on each occasion to avoid confusion.
- The meeting coordinator should provide a printed attendance log for each meeting to allow attendees to sign in. These logs should be collected after the meeting and translated into a database of attendance.
- Responsibility may also be given to the coordinator for taking notes during the meeting or documenting actions taken following the meeting, provided that they are supported with appropriate training.

Scheduling, frequency and duration

- It is essential that protected time is set aside in all participants’ schedules for the meeting. Each surgeon’s job plan and working timetable should take these meetings into account and no other commitments, such as operating lists or clinics, should be scheduled at the same time.
- Meetings should be held regularly and within regular working hours of 9am to 5pm to ensure all relevant staff are able to attend.
- How often M&M meetings are held should be determined by the size and specialty
of the surgical unit. A frequency of one meeting each month is the most common arrangement. In large, busy units and for specialties in which complications are more prevalent it may be appropriate to meet more than once a month.

• The amount of time allocated to each meeting should adequately allow for the typical number of cases which are presented for discussion. A scheduled duration of between one and three hours should be sufficient, depending on the size and specialty of the service and how frequently meetings are held.

• The time required for the discussion of each case will inevitably vary depending on the individual circumstances. Typically cases are discussed between 10 and 30 minutes, depending on the complexity of the case. If there is not enough time to cover each case in sufficient detail, the meeting should be extended. It is best practice not to discuss a single case over more than one meeting. If extension of a meeting is routinely required, either the scheduled duration or the frequency of meetings should be increased. It may be simpler to extend the time allocated to meetings, but if they already last for three or more hours it would be better to hold meetings more often rather than extend them further.

• All cases should be presented at the first meeting following the recognition that a case meets the unit’s criteria for review. The meeting should go ahead even if a key surgeon involved in the case is unable to attend, as all relevant details should be available through the surgeon’s notes.

**Participation and attendees**

• Each surgical specialty should have its own dedicated M&M meeting. In some situations it may be useful to also have a number of sub-specialty meetings at appropriate intervals. For instance, in addition to general surgery M&M meetings, it may be appropriate in some units to also hold separate breast, colorectal, endocrine or upper gastrointestinal meetings.

• All of the consultant and associate specialist surgeons would be expected to attend each of their unit’s meetings unless they are on leave. Specialist registrars and staff grade surgeons should attend all meetings for incidents that occur when they are on duty.
• Participation by the surgical consultants and associate specialists within the unit should be contractually mandated and accommodated.
• Other clinicians involved in the delivery of the service should also be invited to participate regularly. For most units this would likely include anaesthetists, physicians, radiologists, pathologists, nurse specialists and ward nurses and for some would also involve physiotherapists, pharmacists and others. Foundation year doctors should also be encouraged to attend whenever their ward duties allow for this. Non-clinical managers with a role in service delivery or clinical governance should also be invited to attend.
• Attendance at M&M meetings should be underpinned by strict confidentiality, and all information shared at the meeting should be treated sensitively and in confidence.
• All participants should be asked to sign in to the attendance log of the meeting. Core members of the group, including consultant surgeons, would be expected to remain for the duration of each meeting except in the event of an emergency that requires their attention.
• Hospitals should maintain attendance records of surgical M&M meetings and make this information available for each individual’s annual appraisal.

Identifying cases for discussion

• Each surgical service should agree a set of criteria by which cases are identified for discussion at M&M meetings. Objective and locally agreed criteria across the service will help remove the possibility of bias which may occur when the selection of cases lies in the discretion of an individual. There should also be criteria for the prioritisation of cases, to ensure that the most critical issues receive the appropriate amount of attention.
• The criteria used to select cases will vary for each surgical specialty. Examples of specific criteria may be:
  o surgical inpatient deaths;
  o never events including wrong site or wrong level surgery;
  o safety incidents which result in ‘moderate harm’ and therefore trigger the
formal duty of candour (see Duty of Candour: Guidance for surgeons and employers, RCS, 2015).
- patients whose discharge from hospital was delayed by complications;
- unplanned patient readmissions under any specialty within 30 days of a previous discharge from the surgical service;
- returns to theatre within the same admission (either planned or unplanned);
- intra-operative complications such as excessive bleeding;
- other incidents classified by local clinical governance as being of major concern;
- near misses that would otherwise not fall in to one of these categories.

• Some surgical specialties such as cardiothoracic and vascular surgery carry a higher risk of mortality and a number of deaths is normally expected. In these specialties, it is good practice that a small group of surgeons goes through all inpatient deaths to decide which ones should be referred to the M&M meeting.

• To facilitate the process of case identification a surgical service should ensure that a log of surgical patients is kept, including all relevant details of their admission. Ideally this log should be generated automatically by linking to an existing electronic patient records system. Where this is not possible a suitable individual should be assigned with the responsibility of maintaining an electronic list of patients under the care of the unit.

• This patient log should also be updated to record which patients were discussed at an M&M meeting, what the outcome of the discussion was and what category of issues were identified.

Preparation of case presentations in advance of the meeting

• Once the cases for review have been identified they should then be allocated to the surgeons responsible for preparing the case presentations. Allocation should take place sufficiently far in advance of the meeting to allow time for preparation.

• The unit should agree a standardised format for the presentation of information at the meeting. This format should be followed for all cases, to ensure consistency and understanding (see section C).
• The preparation time will vary depending on the surgical specialty and the individual circumstances of the case. Preparing a case for presentation would usually include the following steps:
  o gathering the relevant patient information;
  o where necessary, undertaking a reasonable review of the relevant clinical literature and incorporating this into the presentation;
  o retrieving relevant radiographic images and pathology reports and discussing these with the reporting radiologist or pathologist as necessary;
  o preparing typed presentation slides and images following an agreed format;
  o sending the prepared materials to the meeting coordinator.
• It is crucial that clinical records are well maintained and kept up-to-date in order to facilitate efficient data collection for M&M meetings. Coding of conditions and recording of patient outcomes should be accurate and all relevant staff should have easy access to records.
C. CHAIRING THE MEETING AND TEAM BEHAVIOURS

*Good Surgical Practice* (RCS, 2014) sets out the responsibility of all surgeons to engage in quality assurance and quality improvement activities, including participation in M&M meetings. Commitment to the aims of the meeting by all participants and the quality of their interactions plays a crucial role in the effectiveness of an M&M meeting.

Good leadership is also necessary to foster an environment in which all participants can contribute to constructive and non-judgemental discussion without fear of criticism from their peers. Conversely, all participants have a shared responsibility to behave in a way that is conducive to learning and supports service improvement and to challenge conduct that may be detrimental to those shared goals.

Who should chair the meeting?

- Consultant surgeons are best placed to chair surgical M&M meetings due to their level of authority in a surgical department and the specialist knowledge and leadership experience they bring to the role.
- It is recommended that the responsibility for chairing the meeting should be rotated between consultant surgeons on a regular basis. Change in rotation should ideally take place every twelve months to provide continuity to the running of meetings and to facilitate job planning arrangements. It is expected that the chair will require dedicated time in their job plan to carry out their responsibility.
- It is also advisable to appoint a deputy chair in the event that the chair is unable to attend.
Attributes of a good chair

The chair of an M&M meeting should be able to demonstrate good leadership skills. Key attributes of good surgical leaders that are also relevant when chairing an M&M meeting are:

• Being honest, open and consistent;
• Being accessible;
• Being open to challenge and feedback;
• Being decisive;
• Being self-aware and mindful of their impact on others.

More information and detailed analysis on the principles of good surgical leadership can be found in the RCS guidance *Surgical Leadership. A Guide to Best Practice* (RCS, 2014).

The role and responsibilities of the chair

The chair of the meeting is responsible for enabling an open and constructive discussion that can fulfil the meeting’s purpose and for ensuring the completion of the following tasks throughout the M&M review process:

*Prior to the meeting*

Before each meeting the chair should ensure that

• the agenda of the meeting has been finalised and circulated well in advance to allow participants to prepare;
• the cases put forward for review meet the agreed selection criteria;
• cases are appropriately prioritised, so that those with important learning points are not postponed or cancelled due to lack of time.
During the meeting

During the meeting, the chair should ensure that

- the meeting is sufficiently well attended to fulfil its purpose;
- the record of discussion from the previous meeting is agreed and any amendments proposed are considered;
- there is an open discussion and constructive exploration of opposing views;
- discussions are focused, relevant, evidence-based and patient-centred;
- a reasonable balance between case presentation and case discussion is maintained;
- all relevant team members are included in the discussion and feel able to request and provide clarification if anything is unclear;
- disagreements between participants are managed, enabling the meeting to progress;
- any inappropriate behaviour is challenged;
- the outcomes of discussions are summarised and the appropriate NCEPOD grading for each case has been noted and recorded (see section C);
- any agreed actions are allocated and recorded before discussion of the next case begins.

After the meeting

After the meeting the chair should ensure that

- the record of the meeting accurately reflects the outcome of the discussion of each patient and is circulated to all participants;
- any cases that have been classified as less than “good practice” in accordance to the NCEPOD grading are appropriately followed up;
- other significant issues arising from the review of cases are escalated to the senior management of the organisation (e.g. escalation of concerns over an individual’s practice or of proposed major changes to the way in which services are delivered);
- other assigned actions are completed.
Team behaviours

- All participants in the M&M meeting share a responsibility for creating and maintaining an environment which is conducive to an objective, honest and non-judgmental review of adverse outcomes.
- The RCS publication *The High Performing Surgical Team: a Guide to Best Practice* (RCS, 2014) identifies a number of characteristics of well-functioning teams. These include several signs that a team shares a high degree of trust, such that team members:
  - admit mistakes and weakness;
  - ask for help;
  - accept questions and input about their area of responsibility;
  - give one another the benefit of the doubt before arriving at a negative conclusion;
  - take risks in offering and accepting feedback;
  - appreciate and tap into one another’s skills and experiences.
- In order to reinforce these qualities and challenge any behaviour which is contrary to the meeting’s aims, participants should commit to a code of conduct for all members, setting out what is acceptable behaviour within the meeting.
- The precise content of the code of conduct will vary according to the setting and it is important that participants are involved in developing the code before committing to it. Suggested principles to incorporate include:
  - mutual respect and trust between participants;
  - commitment to the task of an objective review of adverse outcomes;
  - encouragement of contributions from all participants;
  - constructive discussion and debate;
  - valuing different opinions;
  - challenging those in the group who do not adhere to these principles.
D. CASE PRESENTATION AND DISCUSSION

Who should present cases?

There are a number of different models that can be used for the presentation of cases at M&M meetings. Each of these will have its own benefits and drawbacks. The College’s recommendation on best practice for case presentation and discussion is as follows:

- Preparation and presentation of each case should be the responsibility of a consultant surgeon. The consultant presenting a case should not be the same consultant who was responsible for providing treatment but ideally it would be a consultant of the same specialty and preferably also the same sub-specialty. In some specialties where the consultant anaesthetist or referring physician are a key member of the team (e.g. in cardiothoracic surgery, hepatobiliary or vascular surgery) they may also present the case.
- Cases should be allocated as equally as possible among consultants to ensure a fair distribution of the work that will be required.
- Each M&M group should decide whether the chair should be included in those who will be preparing and presenting cases. In larger services we recommend that the chair is not involved in case presentations so that he or she can focus solely on their chairing responsibilities.
- Patients should be identified by hospital number.
- The consultant responsible for the patient’s treatment should not be identified or, alternatively, they should not comment until after the discussion of the case has ended, to answer questions and provide clarification. This approach helps foster an atmosphere where the focus is on the process and takes into account systemic factors contributing to errors and adverse events and how to prevent their repetition, rather than on the identity of the members of staff involved in that case.
Standardised presentation of cases

• It is important, where possible, to minimise potential barriers to the discussion arising from attendees’ different communication styles. In order to facilitate this, participants should adopt a standardised model for presenting cases. Used properly, this can improve the quality of the presentations by enabling the team to focus quickly and without distractions on any problems that have occurred, facilitate the analysis of the standard of care provided to the patient and identify learning points.

• We recommend a standard presentation model which is an adaptation of the well-established Situation, Background, Assessment and Recommendation (SBAR) mechanism by the NHS Institute for Innovation and Improvement. This should include a brief background of the patient, a description of events leading to the adverse outcome, an analysis of the adverse outcome and suggested key learning points:

  o **Patient:** A brief description of the patient’s relevant clinical history to include: age, co-morbidities, previous investigations, admitting diagnosis, the decision of the multidisciplinary team (if applicable), confirmation of the operation/treatment undertaken and details of adverse outcomes.

  o **Events:** A summary of the events that occurred either pre-operatively, in theatre or post-operatively and which led to the adverse outcome. Any relevant information should be included, such as a decision to change a treatment plan (and the reasons why), or changes in the patient’s circumstances (e.g. the BMI of a transplant patient had significantly increased since last seen in clinic). Additional data such as vital signs measurements, assessments on the ward and imaging are also helpful.

  o **Analysis:** The presenter should give a summary of their analysis of the contributing factors that led to the adverse outcome. These should be categorised under the following headings:

    • **Human factors:** such as a delay or failure to rescue, technical surgical error, proficiency, misinterpretation of investigations, prescription errors or failure to comply with protocols, a delay involving a more senior doctor
or nurse, a delay in recognising changing clinical signs and/or symptoms, inappropriate case selection, inadequate handover, failure to seek assistance from colleagues;

- **System factors**: such as technical issues with equipment, insufficient staffing levels, availability and quality of resources and processes for accessing them, deficiencies in pathways, involving multiple services, poor waiting list prioritisation, access to an operating theatre, on call and handover arrangements, deficiencies in training or operational pressures such as an excessive volume of activity;

- **Patient factors**: such as elevated risk due to comorbidities, or rapid or unexpected patient deterioration;

  - Key learning points: The presenter should highlight any key learning points from the summary of the case and any literature reviewed.

### Case discussion, grading and preventable harm

Following the presenter’s summary of the case, the chair of the meeting should open the discussion to the wider group. This should include:

- A thorough discussion of the incident that occurred, exploring any factors that may have contributed to the eventual outcome but which were not mentioned in the case presentation.

- Any questions which need to be addressed to the responsible consultant directly. It is preferable for the responsible consultant to allow their colleagues to discuss the case and only intervene to answer questions or provide clarification, rather than steer the direction of the discussions held.

- Challenges to the presenter’s categorisation of the factors that led to the adverse outcome (i.e. human, system or patient factors). A process for addressing any disputes in categorisations should be agreed; this may be by majority vote, further discussion following additional information, or a referral to the Clinical Governance Lead for further review.
Once the categorisation of contributing factors has been agreed, the team should then use a framework, such as that used by National Confidential Enquiry into Patient Outcome and Death, to grade the standard of care provided to a patient. The levels of grading used by NCEPOD advisors are as follows (NCEPOD, 2011):

- **Good practice** – A standard that you would accept from yourself, your trainees and your institution.
- **Room for improvement, clinical factors** – Aspects of clinical care that could have been better.
- **Room for improvement, organizational factors** – Aspects of organizational care that could have been better.
- **Less than satisfactory** – Several aspects of clinical and/or organisational care that were well below what you would accept from yourself, your trainees and your institution.
- **Insufficient data** – There is not enough information available to make a determination accurately. If insufficient information has inhibited a comprehensive discussion of a patient’s care than it should be agreed that additional information will be sought and the case re-presented at the next scheduled meeting.

**Preventable harm:** Attendees should conclude their discussion by addressing the following questions on preventable harm and record their decision in the notes of the meeting:

- *Was there preventable harm?*
- *Is further investigation required to determine whether harm could have been prevented?*
- *Did a safety incident occur that should trigger the formal duty of candour? (see RCS, Duty of Candour, 2015)*
Maintaining a formal record

- It is best practice that a formal record of the outcomes of each meeting’s discussion is maintained, forming part of organisational memory. Traditionally, there was an argument for not minuting M&M meetings to promote a more open discussion between participants. However, maintaining a formal record of the analysis of adverse outcomes demonstrates to all that a surgical team is open and willing to learn from incidents. It also provides evidence that surgeons and healthcare organisations are meeting the requirements of their duty of candour to patients.
- In order to encourage open discussion, the record of the meeting should present only a summary of the discussion held and the consensus view reached rather than attribute specific points to individuals.
- Actions agreed by the team should also be formally recorded as part of this process.
- To ensure consistency it is suggested that the formal recording of M&M meetings is assigned to one individual, ideally the meeting coordinator.
- A copy of the case discussion should be included in the patients’ clinical records.
- A process for agreeing the content of the formal record should be introduced. It is suggested that a central location for the record should be created allowing all members of the team to have ‘read only’ access to it. The first agenda item of every M&M meeting should be to agree the record of the previous meeting. This need not involve a review of the outcome of every discussion at the previous meeting. Rather any inaccuracies in the record should be raised and amendments suggested. Proposed amendments to the record should be agreed by the chair and corrected by the meeting coordinator.
- It is important that the team also records any changes made to systems and practices as a result of issues identified through the M&M process to allow for the effect of these changes to be monitored.
E. ACTIONS ARISING FROM SURGICAL MORBIDITY AND MORTALITY MEETINGS

In order for M&M meetings to bring about service improvement, well planned case presentation and constructive discussion of cases must be followed by a robust process of implementing action plans. This should include the following principles:

- Actions necessary for preventing the recurrence of errors and adverse incidents should be identified, allocated and accurately recorded during the meeting.
- Actions must be relevant to the issues that have been identified and proportionate to the grading of the care received by the patient.
- A timeframe for completion of the action plan should be agreed.
- Agreed actions should be concise interventions which can be implemented by the individuals allocated to undertake them within the time allowed. Details of individuals’ engagement in this process (e.g. their reflection on the case and any incidents) can be fed into the annual appraisal process.

Possible actions resulting from morbidity and mortality review

Those cases for which the care provided was graded ‘less than satisfactory’ are likely to prompt the most significant interventions. Some examples of actions which may be considered in such cases are as follows:

- Reporting the case as an incident, if this is recommended by the group and has not already been done. The Trust’s incident reporting system should be used to ensure accuracy and identification of trends.
- Presentation at Divisional or Directorate Board level by the Clinical Governance Lead to ensure that senior leadership is informed of the situation.
- Further investigation to determine whether the outcomes of similar cases are indicative of a wider problem. This could be done through retrospective audit of outcomes or clinical record review. It may also be identified that an incident or unexplained mortality requires a higher level of investigation, for instance through a Serious Untoward Incident analysis. If an investigation is already underway then it would be appropriate to share the summary of the discussion with the case investigators.
• Review of existing systems and processes to determine their effectiveness and practicability. Where these are found to be of an acceptable standard, further investigation could determine whether any barriers to compliance exist and how these can be mitigated. Ways to improve levels of staff awareness of the processes governing their work may also be suggested as part of this review exercise. Ineffective systems and processes should be revised and the impact of any changes should be measured.

• Close monitoring for a period of time to identify any recurrence. Prospective auditing of the outcomes of a specific procedure or for a patient group may be undertaken to identify any repetition of adverse outcomes and enable further action without delay.

• Communication with the patient or their relatives if the deficiencies in the care provided as identified through the M&M review have not previously been discussed with them. At minimum patients and their relatives should be informed of the nature and impact of the identified deficiencies, their causes and the actions being taken to prevent their recurrence.

• Following the specific reporting requirements required if the incident has reached the harm threshold outlined in the formal duty of candour (see RCS, 2015 and CQC, 2014).

• Reporting to the Medical Director (preferably by the chair of the meeting) any serious concerns arising from the practice of an individual. Such concerns may relate to surgical technique or clinical decision making, communication with patients and colleagues, or health and probity. In the event that concerns relate to the practice of the chair, another member of the consultant group should report these concerns to the Medical Director.

• Escalation to senior management if the outcome of the meeting suggests that significant change to service delivery is required.
F. IDENTIFYING PATTERNS AND WIDER LEARNING

Individual cases discussed at M&M meetings can inspire changes to working practices and bring about improvements to patient care. There should also be a concerted effort to monitor trends in the cases brought to these meetings and explore what lessons can be learned from them. The identification of patterns in M&M data is vital for the prevention of repeat instances of poor care over time.

A nominated member of staff such as a Clinical Governance Lead, supported by the meeting coordinator, should be responsible for:

- Identifying patterns in M&M data and feeding this into wider clinical governance systems;
- ensuring that agreed actions are completed and any changes to existing systems and/or processes are implemented;
- escalating instances of failure to complete and/or implement agreed actions;
- where actions recommended in the meeting cannot be implemented, this is specifically highlighted to the senior management of the organisation;
- appropriately sharing information that might have an impact on incident grading or on how an open incident is being dealt with by the organisation’s wider clinical governance processes;
- monitoring the impact of systemic changes through measuring audit and outcome data and sharing this information with all staff to encourage ongoing engagement with the M&M review process;
- overseeing the production of a report detailing the changes implemented to systems and processes as a result of the M&M review process as well as their impact. The report should be produced quarterly or biannually, depending on the frequency of meetings.
G. BIBLIOGRAPHY

Regulation


National and international guidance

Studies and Articles


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