Severe sepsis
Sepsis (Total)

3.

•
•
•

Of all patients meeting sepsis criteria:
Only 25% of staff knew the 4 key criteria for gold standard sepsis care was taken from the Surviving Sepsis Campaign Guideline Bundle.

Results

Methodology

The project was divided into two components: First, an assessment of staff knowledge of sepsis criteria and guidelines was made using a questionnaire, which was completed by doctors across a range of grades working in acute medicine (n=20).

Secondly, the notes of medical patients meeting sepsis criteria, admitted to AMAU directly or via the ED over 3 months (n=54), were reviewed to compare practice to the gold standard. The patients were identified retrospectively.

Number of patients identified

<table>
<thead>
<tr>
<th>Criteria</th>
<th>ED</th>
<th>AMAU</th>
<th>AMAU via ED</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sepsis (Total)</td>
<td>29</td>
<td>19</td>
<td>6</td>
<td>54</td>
</tr>
<tr>
<td>Severe sepsis</td>
<td>11</td>
<td>2</td>
<td>2</td>
<td>15</td>
</tr>
<tr>
<td>Septic Shock</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
</tbody>
</table>

Criterina for gold standard sepsis care was taken from the Surviving Sepsis Campaign Guideline Bundle.

Audit of Clinical Practice

Overall, sepsis was documented in 35% of patients’ notes.

Of all patients meeting sepsis criteria:
• 66% of patients had a blood culture prior to antibiotics (Fig. 1.)
• 27% of patients had a lactate obtained (Fig. 2.)
• 98% of patients were treated with antibiotics which were given IV in 85% of cases (Fig. 3.), although only 56% received antibiotics within 3 hours (Fig. 4.)
• 66% of patients meeting criteria for IV fluids (n=3) received them within 1 hour

Discussion and Conclusions

The questionnaire revealed a poor understanding of sepsis definitions and recommended investigation and management. This suggests that staff may fail to recognise sepsis in the clinical setting and may explain the poor adherence to guidelines in clinical practice.

A limitation of the questionnaire was that it asked for specific definitions of sepsis and the guidelines, which staff may not have known but they may instead have been aware of the general principles.

Sepsis was poorly documented as a diagnosis. This may be due to staff failing to recognise sepsis or a failure to document it. Regardless, documentation is a vital part of forming and communicating the diagnosis and may be critical in highlighting the importance of prompt investigation and management to others caring for the patient.

Investigation with a lactate measurement was inadequately adhered to, although it was noted this was more likely to occur in patients presenting via ED, perhaps because a blood gas more often forms a part of their routing panel of tests. As lactate is an important test to help identify patients with severe sepsis, this could mean this patient group is under-diagnosed.

Blood cultures prior to antibiotics was the most adhered to standard. However, from subjective observation of patients’ clinical notes, blood cultures were more likely to be done if the patient had a fever. It is known that other variables applicable in sepsis patients can predict bacteraemia so cultures should be done in all patients presenting with sepsis.

Reassuringly, all but one patient presenting with sepsis received antibiotics, with the majority getting these intravenously. However, the concerning point was the time taken to administer IV fluids. In a large proportion of patients receiving antibiotics after the 3 hour window, even patients with severe sepsis, in whom it is recommended antibiotics are administered within 1 hour.

Reasons for this delay could include: poor recognition of sepsis; delay whilst awaiting investigations to aid antibiotic choice; delayed medical review due to failure to alert doctors of a patient meeting sepsis criteria; delayed administration of antibiotics by nursing staff due to practical issues or a lack of understanding of the urgency of initiating prompt treatment.

Actions taken

The results of the project were initially presented at a local medical meeting to doctors of all grades from all acute medical teams. The presentation also formed part of an education intervention as teaching on sepsis definitions and guidelines was provided. An outcome of the presentation was the need for change, and the necessity for a coordinated effort from both doctors and nursing staff to implement this.

A sepsis committee was created to develop a strategy for improving the approach to sepsis. The team comprises of medical and nursing colleagues working in acute and emergency medicine and critical care, as well as close liaison with infectious diseases specialists.

The main aims of the committee are:
• To revise local sepsis guidelines to ensure they are in line with those from the International Surviving Sepsis Campaign and ensure these are readily accessible to staff staff dealing with sepsis
• To develop a sepsis pathway to streamline and standardise sepsis management
• To better educate doctors and nurses on the recognition and management of sepsis and to raise general awareness with a sepsis publicity campaign

These are local pilot projects which will be rolled out across all specialties within the hospital, and in time may be applied in other hospitals in the same District Health Board.