Standardising aseptic technique to avoid HCAIs

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- Why it is important to standardise aseptic technique
- Engaging model wards to good effect
- Engaging staff to develop their existing skills

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Aseptic technique (AT) is central to reducing healthcare-associated infections. This article describes how Golden Jubilee National Hospital provided training for staff on one ward that resulted in them having a better awareness of AT. Nine out of 10 staff completed four key e-learning modules as part of a structured “model ward” approach. Challenges included freeing up staff time and creating opportunities to observe practice after module completion.

Preventing HCAI spread in Scotland

NHS Education for Scotland (NES) is a special health board responsible for supporting NHS services in Scotland by developing and delivering workforce education and training. Its HCAI team leads the educational elements of the Scottish Government’s healthcare associated infection task force delivery plan on the prevention and control of infection, and is responsible for providing educational resources to support HCAI prevention, decontamination and antimicrobial stewardship across all clinical professions and non-clinical disciplines in NHS Scotland (NES, 2014a).

To promote a standardised approach across Scotland, in 2012 NES developed and launched the Aseptic Technique e-learning programme. In NHS Scotland there is now a consistent message on the application of asepsis, and the e-learning programme has become a vital component in helping NHS boards to achieve reduction in Staphylococcus aureus bacteraemias and avoid harm.

The Aseptic Technique programme

The Aseptic Technique programme (bit.ly/NESelearnAT) was developed based on the best available evidence at the time and includes modules covering seven key topics (Box 1). Each module takes 30-45 minutes to complete and includes a formal assessment, an example of which is given in Box 2. The assessment at the end of the modules comprises four multiple-choice questions. Staff must score 75% to pass; if they fail they must retake the assessment.

The programme uses video footage to demonstrate aseptic procedures and practices, as practical skills benefit from visual and auditory learning. For all healthcare staff to successfully apply the AT and implement the programme, a standardised support process at NHS board level is required to support training and education.

After the modules were developed, a series of live roadshows visited every health
board in NHS Scotland to tell them about the online training, how to access it, and general AT protocol. After these events, NES offered extra support to all the health boards to aid with further implementation.

Golden Jubilee National Hospital (GJNH) in Clydebank bid for this support and an assistant clinical educator was appointed as the facilitator to run an improvement project, using a “model ward” technique where staff could develop their understanding and undertake the online training. As well as the work done on the model ward, the e-learning modules were publicised across the hospital through various media. The work was also presented in poster format at the 2014 NHS Scotland Event (NES, 2014b).

Standardising practice

Different methods have been used to encourage a standardised approach to good practice. The innovative model ward approach was first introduced as part of the 1000 Lives Plus campaign in Wales, with a model ward described as “a benchmark of how wards should be” (Gray, 2011). Wards in hospitals across Wales focused on different patient safety projects including reducing infection and increasing hand hygiene compliance. In each ward, staff were given education and asked to feed back to refine the process. The ultimate aim was reducing harm and for this to be mirrored in every hospital in Wales.

As the model ward method had been used effectively to develop tissue viability quality improvement tools for NHS Scotland, it was decided to adopt this method.

Promoting the programme

The e-learning modules were promoted at GJNH from June to December 2013 via two key methods: the model ward and advertising. The model ward involved was the cardiothoracic unit, 3 West; the process facilitator worked with staff over six months. NES supported the facilitator with regular meetings to review the process and help with issues as they arose.

The facilitator worked closely with ward staff to encourage module participation and liaised with ward managers to coordinate uptake. On a few occasions they visited the ward in the evenings and early mornings to engage staff working night shifts.

In addition to this, the communications team worked with the facilitator to publicise the modules across the hospital. Posters and flyers were made available to all staff. Information about the modules was also set as the default computer screensaver, publicised in the hospital e-digest and quarterly staff magazine, and spread via word of mouth. The modules were also added to the doctors’ e-learning programme, and all new clinical staff joining the hospital during this period were encouraged to do the modules as part of their induction.

Completion of the modules

Table 1 details the monthly uptake of modules in the whole hospital over the six months. Fig 1 shows the percentage of completions of particular modules on the model ward. Model ward staff members were asked to complete four modules—1, 3, 6 and 5 in order of priority—and to complete the other two if relevant to their practice. More than nine out of 10 staff completed the four higher-priority modules (Fig 1).

Evaluating the training

After the implementation period, staff members from the model ward were observed in practice. This indicated a demonstrable raised awareness of AT. The facilitator then further evaluated the work of clinical staff in the following areas:

» Wound swabbing
» Wound care
» Blood culture collection

Wound swabbing

All clinical staff accurately followed all the steps of the wound swabbing process, as outlined in the modules. An increased awareness of wound swabbing policy was also noted among staff.

Wound care

Although there were general improvements in wound care, three out of five clinical staff still opened dressing packs before removing old dressings despite this not being the method outlined in the modules. As this practice seemed logical, on review by the facilitator and NES staff, the procedure guide was changed to accommodate this. The dressing back is now opened and the old dressing removed, then hand hygiene carried out so there is no risk of contamination. Wounds are also exposed for a shorter period of time which is good practice.

All staff observed continued to use soap and water to wash their hands despite the module stating that alcohol-based

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During simulated practice, it was observed that blood culture collection was a consistent AT practice, although staff engagement, a structured approach – was key to the project’s success. The senior charge nurse on the model ward agreed to allocate staff time to complete the modules but delays were encountered due to workload pressures. For some staff members, anxiety during observation of practice was also evident; for these individuals, reassurance about the rationale of the project and consequent observation of practice helped alleviate anxiety. Conversely, staff may have also made more effort to get things right because they were being observed, thereby not necessarily behaving as they normally would.

Another issue encountered was with observation of AT practices when taking blood cultures. This was due to the fact that it is impossible to predict when cultures will need to be taken. To overcome this problem, simulated practice and discussion was used to evaluate technique. If undertaking a similar project it may be beneficial to have more specific time frames for the completion of modules. This would lead to more efficient use of staff members’ and the facilitator’s time. The audit results suggest the model ward is an effective method of embedding a standardised approach to AT into practice, although staff engagement, a structured approach and a dedicated facilitator are vital to success (Box 3).

Future developments

In 2015, NES will launch two more modules:
- AT with central vascular access catheters;
- AT with arteriovenous fistulas.

NES is also undertaking some targeted work with other NHS boards in Scotland to align further AT practice with the e-learning modules. A comprehensive package of delivery is being developed in light of the findings from GJNH. This package incorporates behaviour patterns, along with potential barriers and levers to using a consistent AT, and will further the creative development of new ideas to increase uptake and engagement across the professions.

Conclusion

The application of AT is central to reducing HCAIs and is vital for the prevention of infections associated with invasive devices. Uptake of the e-learning programme, in its entirety, has been successful across Scotland with more than 15,300 modules completed since its launch. NT

References
Unsworth J, Collins J (2011) Performing an aseptic procedure whilst working with other NHS boards in Scotland to align further AT practice with the

For more on this topic go online...
- The infection prevention nurse as change agent
- Bit.ly/NTIPNurseChange