Standardising infection control precautions

In this article...

- Difficulties in the use of standard infection control precautions
- How the guidance was revised
- Ten key elements of SICPs

Barriers to effective use of SICPs

Embedding SICPs into everyday practice should make it easier for staff to do the right thing for every patient – and could also reduce variation in practice within and between care settings. However, it has been reported that often guideline and policy developers use different terminology or interchange the precautions required, which makes it difficult for staff to do the right thing (Curran, 2015). Fig 1 highlights the different terms and safety measures used to describe SICPs by three leading guideline and policy organisations.

Differences in terminology and safety measures are often due to different healthcare systems and the infections causing greatest concern within those. For example, the World Health Organization defines its elements of SICPs to cover all developed and developing countries – bloodborne viruses remain one of its infections of concern (WHO, 2007). The US Centers for Disease Control (CDC) and Health Protection Scotland, on the other hand, consider antimicrobial-resistant infections to be one of the greatest current emerging threats (HPS, 2015; CDC, 2013). In addition to these differences, the phrases used to describe SICPs, or aspects of them, also vary:

- “Universal precautions”: introduced by the CDC following the identification and increase in bloodborne viruses (CDC, 1988);
- “Standard precautions” or “standard principles”: currently used by the CDC (Siegel et al, 2007), WHO (2007) and epic3 guidelines (Loveday et al, 2014). All these differences can lead to staff confusion and uncertainty resulting in unsafe practices. As such, it is necessary that the elements of SICPs are commonly

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understood, clearly defined and explained in policy for easy translation into practice within all our care settings (Curran, 2015).

Revising SICPs
In 2008 HPS took the opportunity to revise how a national organisation could back the production and publication of SICPs that would support a common understanding, making it easy for all staff to do the right thing every time, for every patient, in every care area. An evaluation of the existing SICPs policy documents used in Scotland discovered that staff found them too long, repetitive, difficult to navigate (critical information was difficult to find), and they were aimed at infection prevention and control specialists.

These findings showed that the policy design and content had to be updated, with the priority being to ensure it was relevant to staff giving direct patient care. The guidance produced divides SICPs into 10 categories, each with its own “must do” (Fig 2).

Using SICPs in practice
There are three distinct parts to the SICPs guidance produced by HPS:
- Practice manual: this sets out the critical practice points for care staff and has reduced SICPs guidance from 150 pages to <10, with corresponding appendices available to be printed and presented as reminders for staff;
- Literature reviews: the evidence (20 reviews in total) that underpins and informs the SICPs practice manual;
- Critical elements checklist: a plan to help staff improve compliance with SICPs in their care area.

The practice manual and the literature reviews are updated in real time so any changes to the evidence or legislation can be addressed as they arise.

Each SICP category, listed below, comprises critical elements.

Patient placement
Patients must be promptly assessed for infection risk on arrival at the care area and continuously reviewed throughout their stay. Patients who may present a cross-infection risk include those:
- With diarrhoea, vomiting, unexplained rash, fever or respiratory symptoms;
- Known to have been previously positive with a multidrug-resistant organism;
- Who have been hospitalised outside the UK in the last 12 months.

Hand hygiene
Before executing hand hygiene, staff must:
- Expose forearms;
- Remove all hand/wrist jewellery – one plain, metal, finger ring is permitted but should be removed (or moved up the finger to expose the skin underneath) during hand hygiene;
- Ensure fingernails are clean and short, and avoid wearing artificial nails or nail products;
- Cover all cuts or abrasions with a waterproof dressing.

Alcohol-based hand rubs must be available for staff as close to the point of care as possible. Where this is not practical, personal hand-rub dispensers should be used:
- Before touching a patient;
- Before undertaking clean/aseptic procedures;
- After risk of exposure to body fluid(s);
- After touching a patient;
- After touching a patient’s immediate surroundings.

Hands should be washed with non-antimicrobial liquid soap and water if:
- They are visibly soiled or dirty;
- Staff are caring for a patient with a suspected or known gastrointestinal infection, such as norovirus or a spore-forming organism like C difficile.

Respiratory and cough hygiene
To help prevent the spread of infection via respiratory means, staff should:
- Cover their nose and mouth with a disposable tissue when sneezing, coughing, wiping or blowing the nose;
- Dispose of all used tissues promptly into a waste bin;
- Wash hands with non-antimicrobial liquid soap and warm water after coughing, sneezing, using tissues or after contact with respiratory secretions or objects contaminated by them;
- Avoid using wipes for hand hygiene in any setting unless there is no running water available. In such cases, hand wipes followed by an alcohol-based hand rub should be used, and hands washed at the first available opportunity;
- Keep contaminated hands away from the eyes nose and mouth.

Personal protective equipment (PPE)
Personal protective equipment (PPE) includes gloves, aprons, gowns and eye or face protection. All PPE should be:
- Located close to the point of use;
- Stored to prevent contamination in a clean/dry area until required for use (expiry dates must be adhered to);
- Single-use only items, unless specified by the manufacturer;
- Disposed of after use into the correct waste stream – that is, healthcare waste or domestic waste.

Gloves
Gloves must be:
- Worn when exposure to blood and/or other body fluids is anticipated/likely;
- Changed immediately after each patient and/or following completion of a procedure or task;
- Changed if a perforation or puncture is suspected;
- Appropriate for use, fit for purpose and well fitting to avoid excessive sweating and interference with dexterity.

Aprons
Aprons must be:
- Worn to protect uniform or clothes when contamination is anticipated/likely;
- Changed between patients and/or after completing a procedure or task.

Gowns and overalls
Full-body gowns/flu repellent overalls must be:
- Worn when there is a risk of extensive splashing of blood and/or other body fluids, such as in the operating theatre.
Changed between patients and immediately after completion of a procedure or task.

Eye/face protection
Eye/face protection (including full-face visors) must be worn if blood and/or body fluid contamination to the eyes/face is anticipated or likely (for example, in members of the surgical team) and always during aerosol-generating procedures (AGPs – medical and patient care activities that can result in the release of airborne particles). AGPs create a risk of airborne transmission of infections that are usually only spread by droplet transmission.

Fluid-resistant surgical face masks must be:
» Worn if splashing or spraying of blood, body fluids, secretions or excretions onto the respiratory mucosa (nose and mouth) is anticipated or likely;
» Worn to protect patients from the operator as a source of infection, for example when performing an epidural or inserting a central vascular catheter;
» Well fitting and fit for purpose, that is fully covering the mouth and nose. Manufacturers’ instructions must be adhered for effective fit/protection.

Safe management of care equipment
Care equipment can be:
» Single use: used once on a single patient and then discarded. Such equipment must never be reused, even on the same patient. The packaging carries a symbol depicting “2” in a circle, with a diagonal line running through it from the top left to bottom right. Needles and syringes are single-use devices; they should never be used for more than one patient or reused to draw up additional medication. Medications should never be administered from a single-dose vial or intravenous bag to multiple patients;
» Single-patient use: can be reused on the same patient. Oxygen masks are single-patient use and should be used, stored and decontaminated according to manufacturers’ instructions.
» Reusable invasive: must be decontaminated after use and includes items such as surgical instruments;
» Reusable non-invasive: often referred to as communal equipment, this can be reused on more than one patient as long as it has been decontaminated between each use. Items include commodes and patient transfer trolleys.

Safe management of linen
Clean linen should be stored in a clean, designated area, preferably an enclosed cupboard. If a cupboard is not available, the trolley used for storage must be designated for this purpose and completely covered with an impervious covering that is able to withstand decontamination. For used linen (“soiled linen” in England, Wales and Northern Ireland), staff must ensure a laundry receptacle is available as close as possible to the point of use for immediate linen deposit. Staff must avoid:
» Rinsing, shaking or sorting linen on removal from beds/trolleys;
» Placing used linen on the floor or any other surface, such as a locker/table top;
» Re-handling used linen, once bagged;
» Overfilling laundry receptacles;
» Placing inappropriate items, such as used equipment/needles, in the laundry receptacle. Used linen must be tagged

Safe management of care environment
The care environment must be:
» Visibly clean and free from non-essential items and equipment to facilitate effective cleaning;
» Well maintained and in good repair;
» Routinely cleaned in accordance with national cleaning specifications (Health Facilities Scotland, 2009; National Patient Safety Agency, 2009; Welsh Assembly Government, 2009). A fresh general-purpose neutral detergent/warm water solution is recommended for routine cleaning. Routine disinfection of the environment is not recommended but 1,000ppm available chlorine should be used routinely on sanitary fittings.

Safe management of blood and body fluid spillages
Blood and body fluid spillages must be covered with a disinfectant that is effective against the microorganisms involved, allowing the area to be cleaned afterwards.

Safe management of waste (including sharps)
Sharps must be disposed of in a sharps bin; these should be clearly labeled and sealed as soon as possible after use and removed promptly. A sharps bin should be located as close as possible to the point of use.

Safe management of occupational safety: prevention and exposure management
The occupational safety (including sharps) must be:
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with the date and hospital ward or care area, then stored in a designated, safe, lockable area until it can be collected.

Infectious linen includes that which has been used by a patient who is known, or suspected, to be infectious, and/or linen contaminated with blood and/or other body fluids such as faeces. Infectious linen should be processed in the following sequence:

» Place directly into a water-soluble/alginate bag and secure;
» Place into a plastic bag, for example a clear bag and secure;
» Fill in a tag specifying the date and the hospital ward or care area, and attach to the bag/receptacle;
» Place in a laundry receptacle;
» Store in a designated, safe, lockable area while awaiting uplift.

Any items that are heavily soiled and unlikely to be fit for reuse should be bagged as infectious linen and returned to the laundry department for disposal.

Safe management of blood and body fluid spillages

Spillages of blood and other body fluids may transmit bloodborne viruses. Spillages must be decontaminated:

» Immediately by staff trained to undertake this safely;
» Using a solution or granules of 1,000ppm (or 10,000ppm for blood) available chlorine.

Safe management of waste (including sharps)

Categories of waste include the following:

» Healthcare (including clinical) waste: this is produced as a direct result of healthcare activities, for example soiled dressings, sharps;
» Special (or hazardous) waste: this arises from the delivery of healthcare in both clinical and non-clinical settings. Special waste includes a range of controlled wastes, defined by legislation, which contain dangerous or hazardous substances, such as chemicals and pharmaceuticals;
» Domestic waste: must be segregated at source into dry recyclates (glass, paper and plastics, metals, cardboard) and residual waste (any other domestic waste that cannot be recycled).

Always dispose of waste immediately and as close to the point of use as possible. It should be disposed of into the correct segregated colour-coded UN 3291-approved waste bag; these are orange/yellow for healthcare waste and black/clear/opaque for domestic waste. Solid containers (sharps boxes) should be used for sharps. Sharps boxes must:

» Have a dedicated handle;
» Have a temporary closure mechanism, which must be employed when the box is not in use;
» Be disposed of when the manufacturer’s fill line is reached;
» Be labelled with point of origin and date of closure.

Occupational safety: prevention and exposure management (including sharps)

The Health and Safety (Sharp Instruments in Healthcare) Regulations 2013 outline the regulatory requirements for employers and contractors in the healthcare sector in relation to arrangements for the safe use and disposal of sharps, provision of information and training to employees, and investigations and actions required in response to work-related sharps injuries.

Sharps handling must be assessed, kept to a minimum and eliminated, if possible, with the use of approved safety devices. Manufacturers’ instructions for safe use and disposal must be followed and needles must not be re-sheathed.

A significant occupational exposure includes:

» A percutaneous injury, such as injuries from needles, instruments, bone fragments or bites that break the skin;
» Exposure of broken skin (abrasions, cuts, eczema, etc.);
» Exposure of mucous membranes, including the eye, from the splashing of blood or other high-risk body fluids such as cerebrospinal, peritoneal, synovial or amniotic fluids, semen, vaginal secretions, and breast milk.

There is a risk of transmission of a bloodborne virus from a significant occupational exposure, and staff must understand the actions they should take when a significant occupational exposure incident takes place.

Implementation of SICPs

The National Infection Prevention and Control Manual (HPS, 2012) aims to provide commonality of understanding and straightforward practice requirements based on the available professional evidence, to instil consistency in infection prevention practice and advice across Scotland. It is based on the current scientific evidence, which has been translated into clinical practice. Its use is mandatory in healthcare premises in Scotland and it is considered best practice in all other care settings. It has also been used and accessed by other UK and international countries.

Conclusion

The successful implementation of these safety measures requires collaboration across care settings using practice guidelines that support a common understanding, thereby making it easy to do the right thing, every time, for every patient, in every care area. As infection risks remain present in our care settings, and new infection threats continue to emerge, health professionals should work together to minimise risk and optimise safety to prevent healthcare-associated infections.

To increase user accessibility the National Infection Prevention and Control Manual and supporting materials are now available at a standalone website (www.nipcm.hps.scot.nhs.uk). The content has been formatted for tablets and smartphones as well as computers, and is in a user-friendly format that supports easy navigation between the SICPs elements.

References


