Hand hygiene is an important aspect of infection prevention, but can be challenging for people with neurological conditions that affect their upper limbs. One of the main causes of neurological conditions is acquired brain injury (ABI), which results in an average of 956 UK hospital admissions every day. In 2013-14 there were a total of 348,934 admissions for ABI. Of these, 445 were due to head injury and 358 to stroke – the two most common ABIs (Headway, 2015); it is predicted that 50-80% of people who have a stroke have involvement of their arms (Dobkin, 2005).

Care staff must be confident in cleaning and moving hands after acquired brain injury. Other neurological conditions can also affect the upper limbs, including spinal cord injury and multiple sclerosis. These figures indicate that there is a potentially large population in hospital and community settings who have upper-limb and hand difficulties. They may be unable to use their hands to wash or manage the hygiene of their affected hands, and therefore need help in maintaining hygiene.

The importance of hand hygiene
Skin is our barrier to the external environment but is vulnerable and requires skilled care. Good skin care involves four processes being carried out on a regular basis:
» Cleaning;
» Hydrating;
» Protecting;
» Replenishing (Voegeli, 2008).

Absence of any one of the processes increases the risk of skin damage. Risk is...
further increased by adding sustained high pressure, friction and shear, and the presence of moisture (Glasper et al, 2009). Much has been written about the maintenance of skin care in relation to pressure ulcers and continence care focusing on the main areas of heels and sacrum, but there is little information relating to skin care in hands with spasticity.

Spasticity is a symptom of upper motor neurone damage. Muscles involuntarily tighten and, in the upper limb, a common pattern is of a flexed elbow, flexed wrist and clenched hand and fingers.

If not managed correctly, the tight muscles of spasticity can cause problems, such as:
- Difficulty opening the hand;
- Clenching causing pressure areas between the fingers or on the palm;
- Changed nail growth;
- Muscle shortening;
- Hypersensitivity;
- Pain.

These problems can lead to eventual changes in the joints and tendons (Bandi and Ward, 2010).

If the hand is held tightly in a fist and is difficult to open, skin can break down, leading to an increased risk of infection. This can also lead to pain and reluctance to allow the hand to be handled.

Role of care staff

Health professionals’ hand-washing compliance is globally accepted as the most important procedure in preventing infection (National Institute for Health and Care Excellence, 2014; Dougherty and Lister, 2011) but literature about the hand washing of patients is scant.

In addition to physical disability, neurological events can cause cognitive, communication and mental health impairments, which can increase dependence on carers (Malkin and Berridge, 2009; Sackley et al, 2006). With impaired or limited ability to communicate their views, consent to interventions, express discomfort or pain, and complain about the quality of care they have received, patients become vulnerable to harm, abuse or exploitation. Staff who are providing hand care should ensure care plans identify the person’s individual needs, as well as their skills and abilities.

Maintaining hand hygiene for people who cannot manage this task independently will usually fall to a formal paid carer – be that in a hospital setting, care home or patient’s own home – or family or friends. Ensuring good patient hygiene is an active and important task (McGuckin et al, 2008) but there are many misunderstandings surrounding the role paid staff can play in undertaking fundamental but undervalued interventions such as hand and nail care. Many agencies discourage staff from cutting fingernails and many NHS trusts indicate that nurses should refer patients to chiropody services (Nicol et al, 2012). However, most published literature advocating caution discusses issues around toenail cutting and the risks inherent with conditions such as diabetes and peripheral artery disease; the maintenance of fingernails is not mentioned.

Some authors say this causes confusion about who should, and could, cut or file fingernails (Nicol et al, 2012; Malkin and Berridge, 2009). Others state categorically that routine nail care for all patients should be undertaken by nurses (Dougherty and Lister, 2015) or others providing personal hygiene care, and that is reasonable to expect that “whoever cares for the patient undertakes all aspects of personal hygiene including nail care” (Malkin and Berridge, 2009).

Factors affecting hand care

For individuals with neurological impairments, several factors may influence their response to staff who try to open tight, painful hands to provide care:
- Pain;
- Anxiety;
- Limited communication and understanding;
- Cognitive impairment;
- Lack of inhibitory control;
- Overstimulation;
- Mental health issues (Bowers, 2010).

A negative cycle of behaviour and response can quickly build up between the patient and the staff member providing care. If the patient displays what is perceived as a “challenging behaviour” during painful or difficult tasks, these may be less diligently provided than easier tasks (Emerson et al, 2000).

BOX 1. CASE STUDY

Emily Chase, aged 69, lived in a nursing home and was dependent on staff for all of her daily activities. She experienced a subarachnoid haemorrhage in 2001 and now had a left-sided hemiplegia. She was able to communicate fully and had the capacity to consent to treatment.

Ms Chase was wheelchair dependent and had a tight left hand as a result of spasticity. Her fingers were fully clenched into the palm of her hand with the joints of her fingers hyperextending due to the pressure being exerted on the palm. She was in considerable pain as a result of the pressure and deterioration in her skin integrity. Her nails were long, digging into her skin.

It was difficult to access the palm of Ms Chase’s hand due to the tightness of her muscles and the orthopaedic changes that had occurred as a result of her hand being held in that position for several years. However, it was possible to make a small gap between the fingers and the palm. The skin of her hand was dirty, her nails were long and dirty, and the palmar skin was hot and macerated. There were large deposits of dried skin between her fingers and in the palm of the hand.

Ms Chase’s right hand, of which she had full use, was also dirty and had long nails. Staff reported that they were unable to help Ms Chase to wash her hands due to the pain she experienced. She shouted, screamed and repeatedly refused any attempt from staff to open her hand. She had been prescribed liquid morphine for pain; the medication was being given just before lunch.

Personal hygiene and care, however, usually took place at 9am.

Staff reported they were scared of using scissors to cut Ms Chase’s fingernails and she indicated that she knew they lacked confidence. There was no individualised care plan for her hand and nail care, despite the difficulties being experienced.

Discussions were held with staff and Ms Chase about the timing of her analgesia. A more suitable time for hand and nail care was identified after the liquid morphine had been administered. Several practical sessions with the care staff and Ms Chase were undertaken on how best to open her hand, gain access to the palm for cleaning and trimming her nails. Consideration was also given to how Ms Chase could help care staff with these activities.

A care plan was devised and used by all staff involved in Ms Chase’s care. This improved her confidence in the staff managing her hand and reduced her pain; consequently, staff gained better access to her hand and their confidence levels and skills were enhanced.
It is important to understand the concepts of mental capacity and the patients’ ability to consent to hand care interventions. Clarity about whether the intervention – be it washing hands and cutting nails – is being done in the person’s best interests or with their valid consent is extremely important. If a patient refuses hand care, alternative ways of carrying out the intervention or its timing should be considered in an attempt to reduce anxiety, help gain valid consent and make it a pleasant experience. The case study described in Box 1 outlines simple changes – such as provision of analgesia before a painful intervention – that improve engagement and concordance.

Box 2 outlines basic hand care advice to which staff should adhere when conducting hand hygiene for patients; Table 1 describes the routine that should be followed by care givers.

**Barriers to providing effective care**
Increased staff workloads and work-related stressors affect the approach and attitude of the staff providing care and, consequently, those displaying any challenging behaviours and the likelihood of their refusal to be treated (McBrien, 2010). In these situations, careful care planning, skill and review are essential.

Cavendish (2013) discussed the dichotomy between the caring role, which requires time, and the increasing procurement of caring services “by the minute”. Patients notice the differences in the quality of care being provided during rushed interventions by staff who may not have been fully supported to achieve competence in the tasks they are required to perform, or who may not have been given adequate time to complete them.

Such factors are likely to negatively affect the confidence and work satisfaction of the staff involved in caring for people’s hands. Lack of knowledge among care staff carrying out these essential roles may be a contributory factor to the increasing number of patients experiencing difficulty with their hands.

The Care Quality Commission’s (2013) review of the quality of care provided to older people in their own homes raised concerns about:
- Staff training needs not being identified (and if identified, not being met);
- Lack of staff knowledge and skill;
- Lack of detailed care plans, including personal preferences and complex care needs.

These concerns were confirmed by a survey of the views of home-care workers conducted by the Local Government Ombudsman (2012). The survey showed that 41.1% of home-care workers had not received specialised training to help care for people with specific needs – for example, people who have had a stroke or have dementia.

**Overcoming the barriers**
Despite these concerns, there is little published evidence on how influential targeted educational sessions – such as how to open and clean tight, painful hands – can be for both care staff and the patients receiving the care. It can be assumed that care staff would benefit from a combination of:
- Increased awareness of the issues affecting the people with whom they work;
- Knowledge and skills in how to manage those issues;
- Sufficient time to address the issues.

Joint working between specialist services and care agencies to highlight, discuss and problem solve may allow individualised needs to be met more effectively. Wade (2009) states that for people with long-term conditions, collaboration between agencies is key for improving care. It could be suggested that in this case, hand care partnerships within neurological services and community care agencies should be developed to provide training and ongoing support.

---

**BOX 2. BASIC HAND CARE ADVICE**

**Explain what you are about to do.** Gain informed consent or establish that what you are doing is in the patient’s best interests. Visually inspect the hand for any skin/nail damage.
- If there are any problems, report to nurse in charge/line manager/inform GP. These may include: skin breaks, maceration, fungal infections, ingrowing nails, thickened nails or exudate.

**Washing hands**
Do not force the hand open or move the fingers quickly. Use slow, but firm, movements.
- **Immerse in a basin of warm soapy water and/or clean in the bath or shower**
- **and/or use a hand wipe.** The use of non-perfumed aqueous cream can help to lift any dried/dead skin
- **You may need two people if the hand is very tight – one to hold the hand and distract the patient and one to clean.**
- **Dry the hand thoroughly**
- **Apply hand cream if the patient wishes and has no relevant allergies**
- **Document and report what you have done and any problems encountered**

**Keep nails short**
- **Perform regular nail care**
- **Visually inspect the nails and surrounding skin, remembering to check under the nail**
- **Clean under the nail**
- **Whenever possible, use a single-use nail file or disposable emery board to keep the nails short; this reduces the need for scissors.** Shape and shorten the nail following its natural shape
- **If using scissors, do not cut down the sides or cut them too short: leave a free edge between the nail and the underlying skin. Do not cut what you cannot see. Place your finger over the nail you are cutting and use the flat edge of the blade, not the point, to cut – this reduces the risk of cutting the patient.**
- **Dispose of, or clean, any equipment used. This should be single-patient use. Document and report what you have done and any problems that you have encountered.**
- **If the patient has a diagnosis of diabetes, rheumatoid arthritis, HIV, or is prescribed anticoagulation medication, do not** start nail care without discussing the patient’s care plan with the nurse or doctor in charge.

**Stretching the hand**
- **Take your time**
- **Open the hand slowly**
- **Use techniques such as gently bending the wrist to gain more access to the palm of the hand**
- **Carry out stretching/opening of the hand regularly (at least two to three times a day)**
- **Use hand splints/palm protectors, if provided, for the recommended wear schedule**
- **Monitor the fit of the splint and report any problems, such as pressure ulcers, poor fit, frayed strapping or compromised integrity of the splint**
- **Hold the hand open with other options, for example a roll of bandage**
- **Do not** force the hand open or move the fingers quickly
- **Do not** allow the hand to be unopened for a long period of time (see Box 1)

Such factors are likely to negatively affect the confidence and work satisfaction of the staff involved in caring for people’s hands. Lack of knowledge among care staff carrying out these essential roles may be a contributory factor to the increasing number of patients experiencing difficulty with their hands.

The Care Quality Commission’s (2013) review of the quality of care provided to older people in their own homes raised concerns about:
- Staff training needs not being identified (and if identified, not being met);
- Lack of staff knowledge and skill;
- Lack of detailed care plans, including personal preferences and complex care needs.

These concerns were confirmed by a survey of the views of home-care workers conducted by the Local Government Ombudsman (2012). The survey showed that 41.1% of home-care workers had not received specialised training to help care for people with specific needs – for example, people who have had a stroke or have dementia.

**Overcoming the barriers**
Despite these concerns, there is little published evidence on how influential targeted educational sessions – such as how to open and clean tight, painful hands – can be for both care staff and the patients receiving the care. It can be assumed that care staff would benefit from a combination of:
- Increased awareness of the issues affecting the people with whom they work;
- Knowledge and skills in how to manage those issues;
- Sufficient time to address the issues.

Joint working between specialist services and care agencies to highlight, discuss and problem solve may allow individualised needs to be met more effectively. Wade (2009) states that for people with long-term conditions, collaboration between agencies is key for improving care. It could be suggested that in this case, hand care partnerships within neurological services and community care agencies should be developed to provide training and ongoing support.

---

**Table 1. Basic hand care advice**

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Washing hands</strong></td>
<td><strong>Immerse in a basin of warm soapy water and/or clean in the bath or shower</strong></td>
</tr>
<tr>
<td><strong>and/or use a hand wipe.</strong></td>
<td>The use of non-perfumed aqueous cream can help to lift any dried/dead skin</td>
</tr>
<tr>
<td><strong>You may need two people if the hand is</strong></td>
<td><strong>Take your time</strong></td>
</tr>
<tr>
<td><strong>very tight – one to hold the hand and</strong></td>
<td><strong>Open the hand slowly</strong></td>
</tr>
<tr>
<td><strong>distract the patient and one to clean.</strong></td>
<td><strong>Use techniques such as gently bending the wrist to gain more access to the</strong></td>
</tr>
<tr>
<td><strong>Dry the hand thoroughly</strong></td>
<td><strong>Carry out stretching/opening of the hand regularly (at least two to three</strong></td>
</tr>
<tr>
<td><strong>Apply hand cream if the patient wishes</strong></td>
<td><strong>Use hand splints/palm protectors, if provided, for the recommended wear</strong></td>
</tr>
<tr>
<td><strong>and has no relevant allergies</strong></td>
<td><strong>Monitor the fit of the splint and report any problems, such as pressure</strong></td>
</tr>
<tr>
<td><strong>Document and report what you have done</strong></td>
<td><strong>Hold the hand open with other options, for example a roll of bandage</strong></td>
</tr>
<tr>
<td><strong>any problems encountered</strong></td>
<td><strong>Do not</strong> force the hand open or move the fingers quickly</td>
</tr>
<tr>
<td><strong>Keep nails short</strong></td>
<td><strong>Do not</strong> allow the hand to be unopened for a long period of time (see Box 1)</td>
</tr>
</tbody>
</table>

---

**Box 2 outlines basic hand care advice to which staff should adhere when conducting hand hygiene for patients; Table 1 describes the routine that should be followed by care givers.**

**Barriers to providing effective care**
Increased staff workloads and work-related stressors affect the approach and attitude of the staff providing care and, consequently, those displaying any challenging behaviours and the likelihood of their refusal to be treated (McBrien, 2010). In these situations, careful care planning, skill and review are essential.

Cavendish (2013) discussed the dichotomy between the caring role, which requires time, and the increasing procurement of caring services “by the minute”. Patients notice the differences in the quality of care being provided during rushed interventions by staff who may not have been fully supported to achieve competence in the tasks they are required to perform, or who may not have been given adequate time to complete them.

Such factors are likely to negatively affect the confidence and work satisfaction of the staff involved in caring for people’s hands. Lack of knowledge among care staff carrying out these essential roles may be a contributory factor to the increasing number of patients experiencing difficulty with their hands.

The Care Quality Commission’s (2013) review of the quality of care provided to older people in their own homes raised concerns about:
- Staff training needs not being identified (and if identified, not being met);
- Lack of staff knowledge and skill;
- Lack of detailed care plans, including personal preferences and complex care needs.

These concerns were confirmed by a survey of the views of home-care workers conducted by the Local Government Ombudsman (2012). The survey showed that 41.1% of home-care workers had not received specialised training to help care for people with specific needs – for example, people who have had a stroke or have dementia.

**Overcoming the barriers**
Despite these concerns, there is little published evidence on how influential targeted educational sessions – such as how to open and clean tight, painful hands – can be for both care staff and the patients receiving the care. It can be assumed that care staff would benefit from a combination of:
- Increased awareness of the issues affecting the people with whom they work;
- Knowledge and skills in how to manage those issues;
- Sufficient time to address the issues.

Joint working between specialist services and care agencies to highlight, discuss and problem solve may allow individualised needs to be met more effectively. Wade (2009) states that for people with long-term conditions, collaboration between agencies is key for improving care. It could be suggested that in this case, hand care partnerships within neurological services and community care agencies should be developed to provide training and ongoing support.
The Care Act 2014 focuses on local authority assessments of care need and stresses that a patient’s wellbeing, including their needs in physical, psychological and mental health should be supported by an individualised care plan. This should be assessed and written by an experienced professional and include methods to prevent, delay or reduce needs that already exist. Involving patients in writing their care plan, wherever possible, is essential to help raise their awareness of how they can increase their self-management skills.

Having documented information relating to each patient – both those who have difficulties opening and cleaning their hands – means that regular checking and care of each individual’s hands should be carried out. Having clarity about the staff member’s role in cutting nails and highlighting the issues that relate to hand care in care-management routines are fundamental responsibilities that health and social care organisations should address immediately.

**Conclusion**

Washing hands and keeping nails short should not be complex issues in themselves but, if they are being neglected due to lack of staff confidence, skill or knowledge, or reluctance from patients due to anxiety, pain or, more worryingly, lack of time, then staff must return to essential principles. Following routines, conducting regular assessment and completing documentation will help care staff and patients to feel confident that the complexities of managing the patient’s hands are being addressed.

It may be necessary to provide education sessions for care staff as, although the tasks are not complex, the presentation of the individual patients’ hands and their response to handling may be.

Training on moving and handling the hands and the impact of spasticity, along with highlighting approaches to care, may result in increased skill and confidence in paid care staff and measureable benefits for patients.

### References


---

**TABLE 1. ROUTINE FOR MANAGING COMPLEX HANDS**

<table>
<thead>
<tr>
<th>STAGE</th>
<th>CONSIDERATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessment</td>
<td>● Tight muscles</td>
</tr>
<tr>
<td></td>
<td>● Finger position</td>
</tr>
<tr>
<td></td>
<td>● Pain</td>
</tr>
<tr>
<td></td>
<td>● Skin integrity</td>
</tr>
<tr>
<td></td>
<td>● Cleanliness</td>
</tr>
<tr>
<td></td>
<td>● Nail length</td>
</tr>
<tr>
<td></td>
<td>● Use/access to splinting/palm protectors</td>
</tr>
<tr>
<td>Care planning</td>
<td>● Assistance needed</td>
</tr>
<tr>
<td></td>
<td>● Analgesia</td>
</tr>
<tr>
<td></td>
<td>● Time of day best suited for the activity</td>
</tr>
<tr>
<td></td>
<td>● One/two people required</td>
</tr>
<tr>
<td></td>
<td>● Issues that may affect skin healing</td>
</tr>
<tr>
<td>Capacity assessment</td>
<td>● Is the patient able to give informed consent to treatment or will it be carried out in their best interests?</td>
</tr>
<tr>
<td>Intervention</td>
<td>● Carry out intervention: washing hands, nail cleaning, nail shortening</td>
</tr>
<tr>
<td></td>
<td>● Identify and treat any problems: pressure ulceration, fungal nail infections, problems associated with application of splints</td>
</tr>
<tr>
<td>Documentation</td>
<td>● Record each intervention – note achievements and any problems</td>
</tr>
<tr>
<td>Review</td>
<td>● Review the care plan regularly to ensure it continues to meet the patient’s needs</td>
</tr>
</tbody>
</table>

---

For more on this topic go online...

- Hand hygiene: product preference and compliance
  - Bit.ly/NTHHProductPref