

Catheter securing and fixation devices: do they really matter?

Ann Yates believes the short answer to this question is 'yes'. With a wide range available, it is crucial to choose a device that suits the individual needs of the patient, rather than to adopt a 'one-size-fits-all' approach

The use of securing and fixation devices for indwelling urinary catheters is an important aspect of any individual's catheter-care management, but it is often a neglected area and equipment is used that is not designed for the purpose—for example, adhesive tape or plasters.

A best-practice statement from the NHS Quality Improvement Scotland (2004), and supported by the Health Protection Surveillance Centre (2011), advises that the catheter and drainage systems should be well supported and secured in a comfortable position to prevent complications for the individual. Securing and fixation devices are specifically designed to prevent the catheter or its retention balloon from causing injury or damage to the skin, bladder neck or urethra (Wound, Ostomy and Continence Nurses Society (WOCN), 2012). Some of the damage and complications that can occur include severe trauma to the neck of the urethra if the catheter becomes dislodged; potential damage to the bladder neck if the drainage bag becomes too heavy with urine and is not adequately supported; discomfort and irritation if the catheter moves too much at insertion site; high potential risk for urinary tract infections (Pratt et al, 2007; Loveday et al, 2014); and bypassing of urine.

However, using the correct and most appropriate equipment is usually on an ad-hoc basis, and the different equipment available can cause confusion to both individual users and carers. For ease of identification, this article highlights the differences between securing devices that may include leg straps/sleeves to support the weight of the urine bag, and fixation devices, which

stabilise the catheter. It will also discuss the prevention of complications by the use of these devices, and the care that should be taken.

Securing devices

There is a range of devices available that help to support the urinary drainage system of choice, and prevent unnecessary traction on the catheter and balloon. Leg drainage bags systems are one of the most common types of drainage systems associated with indwelling catheters, and are usually supplied with a pair of latex-free, non-slip, adjustable leg straps, one for the top of the bag and another for the bottom. It is important that both straps are used to support the leg bag to distribute evenly the weight of urine and provide adequate support (Yates, 2008).

The leg drainage bag should be positioned and supported below the level of the bladder, usually the thigh or calf. This is to prevent any back-flow to the bladder, thereby reducing complications and urinary infections (National Institute for Health and Care Excellence (NICE), 2012). The strap material should be easy to clean, durable, hypoallergenic and allow unobstructed flow of urine into the bag. Velcro straps can act as a tourniquet, as there is no guidance on the tension needed to secure them, and they can restrict venous and lymphatic flow, increasing the risk of deep vein thrombosis (DVT) in individuals with impaired circulation (Freeman, 2009). Straps, even if they are 'non-slip', do have a tendency to work loose and slide down the individual's leg, not giving full support to some.

An alternative to the strap system is a sleeve that encompasses the leg bag and can again be used either on the thigh or calf. This has a small opening for the tap to go through for easy access and emptying. Weight is distributed more evenly, but, again, these sleeves should be easy to clean. The sleeve device may be a better option for individuals with frail skin, as it distributes the weight of the bag more evenly. However, it is vitally important to measure for the correct size, as this device, if too small, can also restrict circulation; if too large, it will not give adequate support.

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Box 1. Benefits to patients of a fixation device

- Increased comfort and peace of mind
- Reduced levels of anxiety associated with pulling or dislodging the catheter
- Reduced physical and psychological trauma
- Reduced internal trauma to bladder, bladder neck and urethra
- Reduced discomfort from catheter movement and traction
- Risk of inadvertent migration of balloon from bladder into urethra
 - Reduction in bladder irritability/spasms
 - Reduction of meatal tearing, erosion, inflammation and cleaving
- Reduced external trauma to distal urethra, penile or labia tissue for urethral/supra-pubic catheters. Therefore:
 - Reduced erosion
 - Reduced tearing/cleaving
 - Lower risk of accidental removal of catheter

From: Wound, Ostomy and Continence Nurses Society (WOCN), 2012

Box 2. Considerations when selecting a fixation device

- Designed for the purpose of securing a urinary catheter (Royal College of Nursing (RCN), 2012)
- Secure, but puts no tension on the urethral/abdominal tissues
- Deemed appropriate, after assessment, for the individual
- Easy to apply/maintain

Fixation devices

Fixation devices are available in adhesive and non-adhesive versions. They aim to assist in supporting the catheter and drainage system by stabilising and anchoring it, and by acting as a shock absorber to prevent any unwanted traction, which can cause complications. Even though fixation devices have been identified as an important part of the management of indwelling urinary catheters by national guidelines—including the Royal College of Nursing (RCN) (2012), NICE (2012) and Loveday et al (2014)—they are rarely used routinely.

There are many benefits of using a fixation device, which have been recognised by the WOCN (2012). Fixation devices:

- Prevent excessive traction on an indwelling catheter
- Prevent pain/bleeding/swelling due to excessive catheter movement
- Can minimise the need for untimely catheter replacement
- Reduce clinical time and cost resulting from the additional materials and management needed to address complications*
- Decrease potential risk of obstruction of urine flow, secondary to catheter tube kinking

- Decrease potential risk of pressure damage due to the patient lying on, sitting on or obstructing non-secured catheter tubing
- Reduce risk of catheter-associated urinary tract infections and complications.

They also identified many benefits for patients themselves (*Box 1*).

Types of fixation devices

There are a number of different types of device. One such device comes in the form of a non-latex strap that wraps around either the thigh or the abdomen, with a smaller strap that wraps around the catheter and is secured with Velcro. They come in different sizes and can be used with both urinary or supra-pubic catheters. This type of design may be contraindicated in some catheterised patients, namely those with poor circulation, phlebitis, lymphoedema and advanced diabetes (Carignan, 2004), as it could lead to venous compression and oedema if applied too tightly. There is also a risk of the soiling of tubing or the strap (WOCN, 2012).

Another device available is an adhesive device with a swivel-hinged plastic clamp that secures the catheter near the bifurcation point. This swivel clip allows the user plenty of movement without the loss of security. This device can be placed on the thigh or abdomen as required and supplied with an acrylic skin protectant. The device can be used for up to 7 days and is removed by either alcohol (gel or wipes) or adhesive remover. Adhesive devices should be used with caution if the patient has fragile skin, as the device could possibly tear or damage skin. Also, do not use one if the patient has a known allergy to adhesives. There is also one without the plastic, which arguably is better for patients who are immobile, as the plastic can cause pressure sores if the patient accidentally lies on it or if it ends up between the thighs.

An alternative design is to hold the catheter in a channel created by a foam insert and a fabric loop overstrap. This device does not use adhesive to secure the catheter in place, allowing for freedom of movement and patient comfort. There is also a multipurpose, foley catheter holder that comes in single and dual tabs. The large tab holder has 3-inch (7.6 cm) centre tabs that wrap around large tubing, which can be secured tightly in place with hook-and-loop fasteners. They can also be opened and closed repeatedly, meaning that no retaping is needed, fit most foley catheters, and are hypoallergenic.

All devices should be used according to the manufacturer's instructions, and are available on prescription.

While costs vary for all devices, they are all available on prescription and usually come in boxes of 5. However some are reusable i.e. strap devices, other i.e. adhesive devices can normally stay in place for up to 5-7 days but can not be reused. The important factor should be what is most appropriate for the individual while bearing costs in mind within the current health climate.



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Key points

- Understand the differences between a securing device and a fixation device for the management of indwelling urinary catheters
- Be aware of why it is essential to use both types of devices when looking after individuals with an indwelling urinary catheter
- Understand the wide range of benefits that are associated with the use of the correct type of fixation device
- Be aware of the clinical guidelines that govern the use of fixation devices
- Understand the importance of assessing the individual for the most appropriate type of fixation device to be used

Selection of appropriate fixation devices

Healthcare workers must be aware of some important points when selecting fixation devices (Box 2).

Individual assessment of patients regarding the ease of use, comfort and tolerability for these devices is important, as it can mean the difference between maintaining a person's independence or the person requiring some degree of assistance. Each of the above devices will have different beneficial properties to individual patients, and it is vital that the healthcare worker recognises these differences.

Conclusion

At present, securing devices to support drainage bags are used routinely. However, the use of fixation devices is far more random. Health workers must be aware that both a secured drainage system and a fixation device benefit an individual with an indwelling urinary catheter and can prevent complications. The key principle is to identify the most appropriate type of fixation device for the individual. The use of a fixation device should be as important as identifying the correct type of catheter used or drainage bag required—it should be a 'given', not an 'optional extra' in catheter care. **NRC**

This article has been subject to double-blind peer review.

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