

# Assessing spinal injury

Information for the public

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## About this information

NICE guidelines provide advice on the care and support that should be offered to people who use health and care services.

The spine (or backbone) is made up of a series of small bones that run down the centre of the back. A bundle of nerves called the spinal cord runs through the spine, carrying messages from the brain to the rest of the body. If someone badly injures their spine, such as with a break (or fracture), their spinal cord can become damaged. This can cause serious long-term problems, including disability (such as losing the ability to walk) and paralysis (where the person is unable to move or feel all or part of their body). However, having pain or an injury in the spine doesn't necessarily mean that the spinal cord is damaged.

This information is for people who have, or may have, injured their spine because of a serious event such as a road traffic accident, a fall, a violent attack, or a sports injury. It is also for family members and carers of people who have (or may have) injured their spine.

The information describes our advice about how spinal injury should be assessed and managed in the early stages (as set out in the NICE guideline on spinal injury). It does not

cover spinal injury that is caused by disease. We also have information explaining our advice on major trauma (a serious injury that could cause permanent disability or death) and complex fractures (complicated breaks in bones which usually need care by a specialist team). Details of how to get to this information can be found in [other NICE guidance](#).

## The care team

A range of professionals who specialise in different areas of treatment or support may be involved in caring for people who might have injured their spine. They may be part of an ambulance team or a member of a trauma team in the hospital and can include paramedics and other ambulance staff, doctors, nurses, and people who take X-rays and scans (radiographers).

## Working with people who might have injured their spine

When possible, the care team should talk to people who might have injured their spine about how their injury will be assessed and managed. They should explain any tests, treatments or support that should be offered so that people can decide what is best for them. Families or carers can be involved in helping to make decisions, but only if the person agrees. Parents or carers may be involved in helping to make decisions for children, depending on a child's age. There is a list of [questions](#) to help with discussions with the care team.

NICE has also produced information for the public on [what adults should be able to expect when they use the NHS](#). We also have more information on the NICE website about [using health and social care services](#).

Some treatments or care described here may not be suitable for everyone who might have injured their spine. If someone thinks that the care given does not match this advice, they should talk to the trauma care team.

# Assessment at the scene

## Assessing for life-threatening injuries

When the ambulance arrives at the scene, the ambulance team should assess the person who is injured straightaway to check that their airway is clear, their breathing is stable and if they have any bleeding that needs to be controlled or any nerve damage.

## Assessing for spinal injury

The person's spine should be protected, or 'immobilised', to prevent any damage. This involves the person lying flat on their back with their head positioned straight, in line with their spine (this type of immobilisation is called manual immobilisation). Once the spine is immobilised they should then be assessed for any injury to their spine.

During the assessment the ambulance team should check if the person has any injuries, spinal pain, weakness or 'pins and needles' (or no feeling at all) in their hands or feet, and also check how alert they are or whether they seem confused. They should ask them if they have had any previous problems with their spine. They should also check things such as their age, the type of injury they have had and how they became injured. All of this will help them to find out how likely it is that the person has a spinal injury, and which part of the spine might be injured.

## Immobilising the spine

If the assessment suggests that someone has injured their spine, or if the assessment can't be done (for example, because of other injuries that happened at the same time), the ambulance team should fully immobilise the spine. This is a more secure way of stopping the spine from moving while the person is being taken to hospital. It usually involves fitting the person with a collar, placing them on a special stretcher, and using head blocks and tape to keep their head still. However, how this is done may vary depending on the circumstances. If someone is finding this difficult (for example, they are very distressed or anxious), they may be asked to find a position in which they feel comfortable without having full immobilisation.

The ambulance team may ask the parents or carers of a child who has been injured to help

with immobilising their spine to make things easier for the child. For example, they may be asked to hold the child's head still or talk to them to distract them from what is happening. Infants who have been injured in a road traffic accident might be kept in their car seat while they are taken to hospital.

If the assessment shows that the spine is unlikely to be injured, the person shouldn't need to have full spinal immobilisation.

## Getting to the ambulance

If the person has had a road traffic accident (or they are in a confined space), they may need the ambulance team to help them get out of the vehicle, for example. But the team may ask them to get out themselves if it is safe for them to do so – for example, if the person is conscious, they don't have any pain in their spinal area or any distracting injuries (injuries that takes their focus away from any pain in their spine), they don't have any weakness or numbness, and the assessments show that their spine is unlikely to be damaged. But if they start having any pain in their spine, numbness, tingling or weakness in their body, they should stop moving and wait for the ambulance team to help them.

Once the person has got out of the vehicle (or confined space), they should lie down on a stretcher. They will then be taken to the ambulance and re-assessed to see if they need to be immobilised.

## Transporting people to hospital

A person who might have injured their spine will be taken to a hospital that has either a major trauma centre or a trauma unit for more tests. Where they are taken will depend on their injuries and whether they are a child or an adult. It may not be the nearest hospital but in some cases it will be the best one to go to because it can provide the specialist care the person needs. However, if someone needs emergency life-saving treatment (for example, to help them breathe) they should be taken straight to the nearest trauma unit.

## Assessment at the hospital

Once the person arrives at the hospital they should be assessed again (see [assessment at the scene](#)). This will be similar to the assessment carried out at the scene, but it may vary depending on their injuries. If staff at the hospital think there might be an injury to the

spine, the person should be offered a scan to confirm this.

## X-rays and scans

The type of scan the person has will depend on which part of the spine is injured, based on the assessments, and whether the person is a child or an adult. All scans should be done urgently.

### Upper spine

If the person is 16 or over and their healthcare team thinks it's very likely they have an injury to their upper spine (called the cervical spine), they should have a type of scan called a CT scan to give a detailed picture of this area. If the CT scan shows that the spinal cord might be injured, an MRI scan may be needed to confirm this.

Children under 16 should have an MRI scan if their healthcare team thinks it's very likely that their upper spine is injured. But if it is less likely, they might have an X-ray if their healthcare team still has concerns. CT scans aren't used as often in children (under 16s) because of concerns about radiation from the scan and its effects in children.

If the person (adult or child) has had a head injury, they may also need to have their head scanned to check for any damage. See [other NICE guidance](#) for more information about head injury.

### Lower spine

If the person is 16 or over and their healthcare team thinks it's very likely that they have an injury to their lower spine (called the thoracic or lumbosacral spine), they should have a CT scan. If the CT scan shows that the spinal cord might be injured, an MRI scan may be needed to confirm this.

If it's less likely that the person (adult or child) has injured their lower spine, they should have an X-ray. Depending on the results of the X-ray, they might need to have a CT scan if more information is needed.

## Whole body

If the healthcare team thinks the person might have injuries to other parts of their body – for example, if the person has been injured in a major car accident – they might need to have a CT scan of their whole body to check for any damage. However, children should only have the parts of the body scanned where damage is suspected, to reduce the amount of radiation they have.

## Pain relief

If someone has (or might have) injured their spine, they should be checked regularly to see how much pain they are in. They should be given painkillers and have the dose adjusted until they are comfortable. The painkillers should be given before the person arrives at the hospital and while they are at the hospital, as needed. The painkillers should be injected or given through a drip (directly into a vein through a tube attached to a needle). If this isn't possible, they may be given as a spray up the nose.

## Information and support

### At the hospital

After someone who might have an injury to their spine arrives at hospital, if possible they should be asked if they would like a family member, carer or friend with them. A member of staff should also be there to provide support and answer questions. When staff are talking to the person, they should make eye contact with them and make sure they can see them so that they don't have to move their head.

The person should be told about their injuries, including any tests and treatments they might be having. They should also be told how long it might take for them to recover from their injuries, when or if they're likely to be able to return to their normal activities and how their quality of life might be affected. People should have the chance to ask questions, which should be answered honestly.

## Children and adults who may need extra support

If the person who is injured is a child or adult who might need extra support (for example,

because they have a learning difficulty or dementia), a member of the hospital staff should be assigned to look after them and to contact their families or carers. If possible, parents and carers should be able to stay where the person who is injured can see them. Staff should work with family members and carers to explain injuries and treatment in a way the person with the injuries can understand. Brothers and sisters of any children who are injured should also be included when support is offered to the family.

If the person has a confirmed spinal cord injury they should have a lifetime of personalised care that is managed by a spinal cord injury centre.

## When moving to another hospital

If the person who is injured is moving to another hospital, they should be told where they are going, why they are being moved there and who will be responsible for their care at the new hospital (including their contact details). They should be given some written information about this. The name and contact details of the person who was responsible for their care at the first hospital should also be written down for them.

## Hospital records

When the person moves to a ward or another hospital, their hospital records should be sent with them.

Hospital staff should write a description of the injuries, plans for treatment and how well they expect the person to recover. It should include a short summary that people and their families and carers can understand. Hospital staff should send this to the person's GP within 24 hours of their admission to hospital.

## Questions to ask

These questions may help you discuss your injuries or the tests and treatments you have been given with your healthcare team.

## Finding out what's wrong (diagnosis)

- Can you tell me more about the scans?

- How long will it take to get the results of the scans?
- Will I need to have an operation? If so, how will it help me? How long will it take to recover?
- Will I need to be referred to another hospital?
- What happens next?

## About spinal injury

- Can you tell me more about spinal injury?
- Are there any support organisations in my local area?
- Can you provide any information for my family/carers?
- What can I do to help myself?
- Will I need to take any medication?
- Will I need to use a wheelchair?

## For family members, friends or carers

- What can I/we do to help and support the person with spinal injury?
- Is there any additional support that I/we as carer(s) might benefit from or be entitled to?
- Is there any information you need from me or that I can get for you?

## Sources of advice and support

- Aspire, 0208 954 5759  
[www.aspire.org.uk](http://www.aspire.org.uk)
- Back-Up Trust, 0208 875 1805  
[www.backuptrust.org.uk](http://www.backuptrust.org.uk)

- BASIC (Brain and Spinal Injury Centre), 0870 750 0000  
[www.basiccharity.org.uk](http://www.basiccharity.org.uk)
- Brain and Spine Foundation, 0808 808 1000  
[www.brainandspine.org.uk](http://www.brainandspine.org.uk)
- Spinal Injuries Association, 0190 860 4191  
[www.spinal.co.uk](http://www.spinal.co.uk)

You can also go to [NHS Choices](#) for more information.

NICE is not responsible for the quality or accuracy of any information or advice provided by these organisations.

## Other NICE guidance

- [Fractures \(complex\)](#) (2016) NICE guideline NG37
- [Major trauma](#) (2016) NICE guideline NG39
- [Head injury](#) (2014) NICE guideline CG176

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