

PHYSIOTHERAPY GUIDELINE

CAUDA EQUINA SYNDROME (CES) – EARLY RECOGNITION

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All documents must be reviewed by the last day of the month shown under “review date”, or before this if changes occur in the meantime.

FAST FIND:

**To see a graphical representation of the patient pathway, go to page 8:
Appendix 1. Suspected CES Pathway**

**For the questioning proforma, go to page 9 & 10:
Appendix 2. (Y1076_08_19 Suspected Cauda Equina Syndrome Questioning Proforma)**

**For Clinical Definitions, go to page 11:
Appendix 3. Clinical Definitions**

**For the A4 Cue Card to support history taking safety netting, go to page 12:
Appendix 4. A4 CES Cue Card**

**For the CES Patient Information Card to support safety netting, go to page 13:
Appendix 5. CES Patient Information Card**

**For Differential Diagnosis and confusing scenarios, go to page 14:
Appendix 6. Differential Diagnosis and confusing scenarios**

For Summary of Clinical Recommendations, see Section 5 (page 4).

DOCUMENT OVERVIEW:

- **This document sets out evidence informed recommendations to facilitate best practice in clinical decision making and timely action by Physiotherapists when assessing patients with potential or actual Cauda Equina Syndrome (CES).**

This document may be made available to the public and persons outside of the Trust as part of the Trust's compliance with the Freedom of Information Act 2000

PHYSIOTHERAPY GUIDELINE

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CAUDA EQUINA SYNDROME – EARLY RECOGNITION

1. INTRODUCTION

This document sets out evidence informed recommendations to facilitate best practice in clinical decision making and timely action by Physiotherapists when assessing patients with potential or actual Cauda Equina Syndrome (CES).

2. DEFINITIONS

Word/Term	Descriptor
Cauda Equina Syndrome (CES)	<p>NB: There is no universally agreed definition. Neurological dysfunction that follows a massive central or centro-lateral disc prolapse, usually at L4/5 or L5/S1 (can occur as high as T11/12 or T12/L1, but at this level the conus medullaris is affected). The lower the level, the less the degree of motor and sensory deficit to lower limbs, but at all levels the parasympathetic supply to the pelvic viscera and the sensory nerves to the perineum is involved.</p> <p>CES results from the dysfunction of multiple sacral and lumbar nerve roots in the lumbar vertebral canal. Such root dysfunction can cause a combination of clinical features, but the term “CES” is used only when these include impairment of bladder, bowel or sexual function AND perianal or “saddle” numbness.</p> <p>A patient presenting with back pain and/or sciatic pain with any disturbance of their bladder or bowel function and/or saddle or genital sensory disturbance or bilateral leg pain should be suspected of having a threatened or actual CES.</p>
Paraesthesia	Abnormal sensation (such as burning, prickling, formication), whether spontaneous or evoked

3. PURPOSE

To ensure that clinical recommendations are adhered to and that patients presenting with suspected CES are treated in a timely and appropriate way.

4. ROLES AND RESPONSIBILITIES

Post/Group	Details	Review/ Monitoring	Implementation
Physiotherapists working with patients with Musculoskeletal conditions	<ul style="list-style-type: none"> ALL must demonstrate awareness of this guideline. ALL ask for a second opinion in Physiotherapy. All make appropriate referrals. 	Incident reports	Include on induction and MSK resource HUB
Experienced and Advanced Practitioner Physiotherapists working with patients with Musculoskeletal conditions	<ul style="list-style-type: none"> ALL must have awareness of this guideline and have responsibility for giving a Physiotherapist a second opinion. All make appropriate referrals 	Incident reports and audit as required	Include on induction, mini teaching and MSK resource HUB

5. SUMMARY OF CLINICAL RECOMMENDATIONS FOR PHYSIOTHERAPISTS

- i. The term CES will be used only when clinical features include impairments of bladder, bowel or sexual function AND perianal or “saddle” numbness.
- ii. Staff will seek an immediate Physiotherapy second opinion where suspicious or uncertain of the clinical diagnosis, which is difficult even for the most experienced staff; and will attempt to distinguish CES subcategories where able.
- iii. Staff will use the Suspected Cauda Equina Questioning Proforma (PDF) (Appendix 2) and Clinical Definitions (Appendix 3) assisting early recognition of CES.
- iv. Staff will use the A4 Cue Card (Appendix 4) to facilitate clear subjective questioning and safety netting.
- v. Detailed clinical examination of neurological integrity will be carried out in clinic (including signs/symptoms of nerve root and/or spinal cord involvement).
- vi. Patient consent to examination will be gained and the need for a chaperone will be considered.
- vii. Physiotherapists are not routinely trained to perform “saddle”, rectal or bladder internal examination but may proceed where competent and patient consents.
- viii. All suspected cases will be managed as an emergency due to complexities of timing symptom onset and devastating consequences of complete CES (Appendix 1. Suspected CES pathway)
- ix. The rare but potential warning signs and symptoms of CES will be discussed with all patients presenting with spine related conditions with risk factors. Patients will be advised that in the event of developing symptoms it is recommended they seek emergency opinion.
- x. Staff will give all patients with spine related conditions with risk factors a CES Patient Information Card (Appendix 5) for safety netting.
- xi. The detailed patient examination, suspected CES questioning proforma, explanation and all action taken will be documented accurately.

6. CLINICAL PRESENTATION

Approximately 70% of cases are under 50 years of age. There are varied presentations of CES:

- a) Acutely as the first symptom of lumbar disc herniation
- b) After a long history of chronic back pain with or without sciatica
- c) Insidiously, in a more chronic way, with slow progression to numbness and urinary symptoms
- d) More rarely related to tumour, abscess or post-surgical complications

Abdul et al, reported no one clinical feature which can predict established CES on MRI scan. In contrast Balasubramanian et al, found the presence of saddle anesthesia had a higher predictive value. Gooding et al, found digital rectal examination had no significant value in the acute diagnosis of CES. *Key Point: Atypical clinical presentation is common. Differential diagnoses and confusing scenarios are presented in Appendix 6.

6.1 Evolution of Symptoms in CES and Timescales

More commonly symptoms **evolve over a few days to a week** although CES has been seen to develop even chronically with degenerative stenosis.

- Evolution of increasing back pain and sciatica
- Involvement of the other leg
- Numbness in both legs
- Saddle area subjective sensory changes “ feels odd”
- Saddle area objective evidence sensory impairment
- Urinary changes, frequency, difficulty initiating passing, loss of desire to void
- Abnormal sensation while passing urine
- Decreased sensation or appreciation of passing urine
- Incontinence, typically dribbling overflow urinary incontinence
- In the case of tumour in the lumbar canal, or at the conus, evolution may take a few weeks or months. CES is a late manifestation as it implies the tumour has grown to a large volume.

6.2 CES Sub-classification or Groups (Ref: Todd & Dickson 2016)

CESS Suspected	Bilateral radicular pain (progressing unilateral)
CESI Incomplete	Urinary difficulties of neurogenic origin, altered urinary sensation, loss of desire to void, poor urinary stream, need to strain or difficulty with micturition
CESR Retention	Painless urinary retention and overflow incontinence
CESC Complete	Loss of all CE function, absent perineal sensation, patulous anus, paralysed insensate bladder and bowel, bladder is no longer under voluntary control, loss of anal tone and loss of anal sensation of fullness

All efforts should be made for early recognition and action to avoid CESI progressing to CESR or CESC. **See Recommendation ii.** Staff will seek an immediate Physiotherapy second opinion and **Recommendation viii.** All cases will be managed as emergencies.

7. CLINICAL HISTORY AND EXAMINATION

7.1 Subjective History

Detailed history taking is crucial to minimise the risks of missing early identification of patients with suspicion or risk of developing CES. The Questioning Proforma (Appendix 2) and CES A4 Cue Card (Appendix 4) supports essential often embarrassing questions about bladder and bowel function and sexual function being completed. The whole clinical picture needs to be considered on clinical decision making – **see Recommendations iii and iv.**

7.2 Examination

Nerve level	Motor key and non-key muscles	Key Sensory points	Reflexes
L2	Hip flexors, Hip adductors	Upper anteromedial thigh	
L3	Knee extensors, Hip external rotators	Anteromedial knee	
L4	Ankle: Dorsi-flexors Hip: Extension, Abduction, Internal Rotation, Knee: Flexion Ankle: Inversion & Eversion Toe: MP and IP extension	Anteromedial ankle	Patella, knee
L5	Long Toe: Extensors Hallux & Toe: DIP & PIP flexion & extension	Dorsum of foot to great toe	
S1	Ankle: Plantar flexors Hallux: Adduction	Lateral side of heel	Ankle
S 2,3,4, 5	Sphincters	Perianal and saddle	Bulbocavernous

Ref: American Spinal Injury Association: International Standards for Neurological Classification of Spinal Cord Injury 2019

Saddle (Perineal and Perianal), Rectal and Bladder Examination

See Recommendations v and vi and the following notes for competent practitioners performing these examinations.

Chaperones: The role of a chaperone is as an impartial observer, present for the safety of the patient and/or the therapist. Chaperones provided by the physiotherapist should be adequately trained in a variety of skills including listening skills, observational skills, documentation, issues of confidentiality, when and how to intervene, informed consent procedures, responsibility and accountability. Chaperones should read and sign physiotherapy patient records when the session is completed.

Saddle (Perineal and Perianal) Sensation Examination: In the early stages the patient may have intact sensation to light touch and pin prick although they report subjective change. When a patient develops sensory change it may be unilateral initially but becomes bilateral. Sensation may be tested in side lying from the outside toward the sphincter using gentle gloved finger stroke, a folded tissue or consider the use of a neurological examination sharp pin. See Diagram 1.

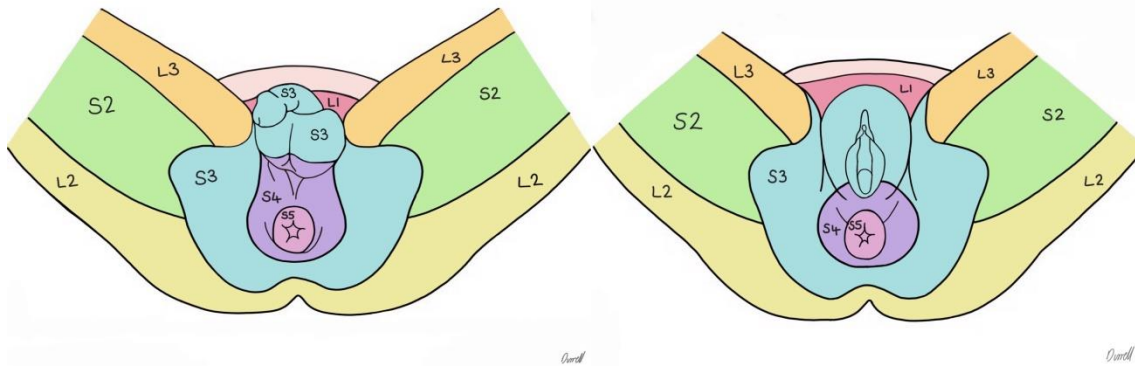


Diagram 1. Saddle (perineal and perianal) dermatomal distribution: Male (left) & female (right)

Trigone Sensation: This may be tested in the Emergency Pathway. The Trigone is a smooth triangular region of the internal urinary bladder very sensitive to stretch. An inserted and inflated Foley catheter is gently pulled with the patient unaware called the “catheter tug test”. This should produce a desire to urinate. Abnormal deficit in sensation may indicate neurogenic abnormality such as CES.

Bladder /Abdominal Palpation: Palpate for an enlarged or percussible bladder. Acute urinary retention is defined as a painful palpable percussible bladder.

Bladder Ultrasound and Catheter Drainage: Ultrasound scan of the bladder and measurement of residual urine volume may support assessment for retention by competent practitioners more likely in the Emergency pathway. Over 200 millilitres residual volume supports investigation for retention.

Rectal Reflexes: Loss or diminution of bulbocavernous reflex (whereby stimulation of the glans, penis, or clitoris causes reflex contraction of the anal sphincter) is suggestive of CES as the reflex is mediated through the sacral roots.

Anal Tone: Anal sphincter tone maybe diminished but has poor predictive value.

8. TIMING FOR SURGERY AND PROGNOSIS

Retrospective evidence supports urgent surgery especially in early cases. **See Recommendation viii.** All suspected cases will be managed as an emergency due to complexities of timing symptom onset and devastating consequences of complete CES.

Prognosis: Established urinary incontinence at presentation is a poor prognostic indicator.

The urgency of surgery remains controversial for two main reasons:

- Time of onset of symptoms is difficult to specify therefore delay between symptoms and surgery difficult to define.
- Research series often contain a mixture of incomplete cauda equina syndrome and cauda equina syndrome with retention, i.e. complete CES.

9. MINIMISING THE RISKS OF MISSED OR DELAYED DIAGNOSIS

The reliability of clinical diagnosis for suspected or actual CES is low. There should be a low threshold for referral for emergency MRI scan within the pathway (Germon 2015). The consequences of delay or missed diagnosis may be catastrophic – **see Recommendation viii.**

10. DOCUMENTATION

Litigation is common when the patient has residual symptoms; always ensure accurate documentation according to **Recommendation ix.**

11. TRAINING

Physiotherapists will be made aware of the document and pathway in new staff induction and receive training through observed practice and questions to seniors or peers.

12. MONITORING OF COMPLIANCE

Objective	Frequency/timescale	Methodology
All cases of suspected CES presenting to Physiotherapy Services are referred to the emergency pathway	On-going	Review of incident forms
All cases referred to the emergency pathway are reviewed by clinician for professional reflection	On-going	Consent to contact patient
Guidance and recommendations are always followed	Every two years	Document audit

13. REFERENCES

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- Todd N.V. (2011) 'Causes and outcomes of cauda equina syndrome in medico-legal practice: a single neurosurgical experience of 40 consecutive cases.' *Br J Neurosurg*, Vol.25, No.4, pp.503-8. doi: 10.3109/02688697.2010.550344. Epub 2011 Apr 22

Web Resources

- <https://www.eoemskservice.nhs.uk/advice-and-leaflets/lower-back/cauda-equina>
<https://gettingitrightfirsttime.co.uk/surgical-specialty/spinal-surgery/>
<https://www.macpweb.org/Resources/d5a6ad86-6b47-4c92-8b9a-064068d96634>
<https://www.ucl.ac.uk/ion/national-hospital-neurology-and-neurosurgery/fowlers-syndrome>

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Suspected Cauda Equina Syndrome (CES) Pathway

GHNHSFT Therapy Service
MSK Core Therapy
MSK Advanced Practitioner Service

*Complete CES Subjective Pro-forma

Red Flags for CES

New or flare-up of Back Pain and / or / leg pain often severe with :-

- Bilateral radicular pain/sciatica
- Bilateral sensory disturbance
- ****Bilateral motor weakness especially if severe or progressive**
- Bilateral loss reflexes

Red Flags

Emergency Pathway if any suggestion of:

- Impaired bladder sensation
- Increasing difficulty passing or controlling urine
- Impaired urethral sensation
- Impaired rectal sensation / loss of sensation of rectal fullness
- Saddle (or genital) numbness or disturbed sensation
- Reduction in anal tone
- Change in sexual function e.g. ability for erection / ejaculation
- Difficulty controlling bowel motion / leaking

Emergency Pathway

***Complete CES

- Bladder paralysis with painless urinary retention
- Dribbling overflow incontinence
- Bowel incontinence
- Sexual dysfunction



MSK Clinicians

- Document clearly examination, decision & action
- Call Orthopaedic Registrar on call via switchboard to inform and agree '**planned attendance**' to GRH
- Record name of Orthopaedic Registrar/ SHO
- Record agreed plan i.e. patient to arrive to GRH Tower Block, Trauma Assessment and Treatment Unit (TATU), ward 3B or GRH Emergency Department (ED) **as planned**
- Write a letter summary to **named Ortho Doctor** with CES Proforma to accompany patient to TATU/ED
- Request patient consent to call for outcome after few days
- Send a copy of the letter to GP
- **GRH Site** - clinician calls a porter or escorts the patient to TATU or ED as planned & agreed
- Hand patient a copy letter with CES proforma
- Health Records traced out and accompany porter or escort if held
- **CGH Site** - clinician asks the patient to make their way to GRH TATU (ward 3B) /GRH ED as planned & agreed
- Hand patient a copy letter with CES proforma
- Health Records traced out by MSK APS Admin team and sent to GRH destination on Pathology Lab run.

Agreed: October 2019 Rath Sundaram, Spinal Surgeon; Will Mason, Orthopaedic Surgeon Trauma Lead; Rob Stacey Consultant in Emergency Medicine; S. Durrell Consultant Physiotherapist

Page no:

NHS
Gloucestershire Hospitals
 NHS Foundation Trust

Therapy Service

Suspected Cauda Equina Syndrome (CES), Clinical Pro-forma

Name: _____

Date of Birth: DD / MM / YYYY _____

MRN Number: _____

NHS Number: _____

(OR AFFIX HOSPITAL LABEL HERE)

Spinal symptoms	
Back pain numerical rating scale	
Left leg(s) pain numerical rating scale	
Right leg(s) pain numerical rating scale	

Any of the following warning signs and symptoms of CES present?			
	Yes	No	Duration of abnormal symptoms
Loss of feeling/pins and needles between your inner thighs or genitals?			
Numbness in or around your back passage or buttocks?			
Altered feeling when using toilet paper to wipe yourself?			
Increasing difficulty when you try to urinate?			
Increasing difficulty when you try to stop or control your flow of urine?			
Loss of sensation when you pass urine? (Notes: for females "only because I can hear it?"/for males "only because I can see it?")			
Leaking urine or recent need to use pads?			
Not knowing when your bladder is either full or empty?			
Inability to stop a bowel movement or leaking?			
Loss of sensation when you pass a bowel motion? Not sure if passing stool or wind?			
Change in ability to achieve an erection or ejaculate?			
Loss of sensation in genitals during sexual intercourse?			
Comments			

Past medical history
Comments: Consider is there another likely cause contributing to pelvic organ dysfunction; perineal or perianal changes or sexual dysfunction? (e.g. established incontinence, urinary tract infection, Diabetes, obstetric history, prostate problem, medication effects)

TO BE FILED IN PATIENT'S HEALTH RECORD/THERAPY DEPARTMENT

GHNHSFT/Y1076/08_19 Review Date: 08_22

Any of the following warning signs and symptoms of CES present?			
	Yes	No	Duration of abnormal symptoms
Back pain?			
New onset /new flare up of back pain?			
Leg pain likely radicular symptoms?			
Associated lower limb neurological motor deficit ?			
Associated saddle sensory disturbance in S2 to S4 region?			
Comments on examination correlation: (e.g. radicular pain distribution, sensory loss, motor weakness MRC scale, reflex responses)			

Clinical analysis		
	Yes	No
Other non-MSK related cause likely contributing to pelvic organ signs and symptoms		
Back pain +/- radiculopathy without any signs and symptoms of CES		
Suspected developing CES either evolving, incomplete or complete		
Longstanding back and leg pain with established ongoing and non-progressive pelvic organ signs or symptoms low probability of CES		
Comments		

Action checklist		
Emergency Department (ED) pathway	Yes	No
Patient advised to attend ED today GRH /CGH (preferably GRH but delete as appropriate) suspected developing CES either evolving, incomplete or complete		
Informed Orthopaedic Registrar on call (via switch) for planned arrival ED today		
Documentation including referral letter to ED (copied to GP) and completed pro-forma sent to ED		
Patient consent to contact them in a few days safety netting follow up?		
Comments		

Non-Emergency pathway	Yes	No
Referral on for opinion patient at risk/with complex diagnosis +/- consideration of MRI scan?		
Plan for review for follow up?		
Safety netting : Patient given business card with CES warning signs and advice to seek immediate help		
Document clearly the clinical analysis and action taken		
Comments on referrals made and follow up action planned		

Therapist signature	Therapist print name		
Designation	Date DD / MM / YYYY	Time 00 : 00	

Cauda Equina Syndrome (CES) – Early Recognition

Clinical Definitions

Bladder sensation	
Normal	The individual is aware of bladder filling and increased sensation up to a desire to void.
Increased	The individual feels an early and persistent desire to void.
Absent	The individual reports no sensation of bladder filling or desire to void.
Non-specific	The individual reports no specific bladder sensation, but may perceive bladder filling as abdominal fullness, vegetative symptoms or spasticity.
Abrams, 2002	
Daytime frequency	The number of voids recorded during waking hours. Normal 6-8 times daily
Nocturia	Is the complaint that the individual has to wake at night one or more times to void. Normal night time frequency: - Greater than 70yrs = two times / Less than 70yrs = one time
Urinary incontinence	
Stress urinary incontinence	The complaint of involuntary leakage on effort or exertion, or on sneezing or coughing.
Urgency urinary incontinence	Is the complaint of involuntary leakage accompanied or immediately preceded by urgency. Haylen, et al 2009
Nocturnal enuresis	Is the complaint of loss of urine occurring during sleep.
Abrams, 2002	
Retention	
Acute retention of urine	Is defined as a painful, palpable or percussable bladder, when the patient is unable to pass any urine.
Chronic retention of urine	Is defined as a non-painful bladder which remains palpable or percussable after the patient has passed urine. Such patients may be incontinent.
Abrams, 2002	
Faecal incontinence	No agreed definition but can be defined by symptom e.g. whether the patient has an urge before leakage (urge faecal incontinence) or has no sensation (passive soiling).
NICE CG 49, 2007	
Anaesthesia	A state characterised by loss of feeling or sensation, i.e. numbness.
www.online-medical-dictionary.org	
Parathesia	An abnormal sensation (such as burning, prickling formication), whether spontaneous or evoked.
British Pain Society	

Compiled by Rebecca Carr, Clinical Specialist Physiotherapist, Women's Health, GHNHSFT.

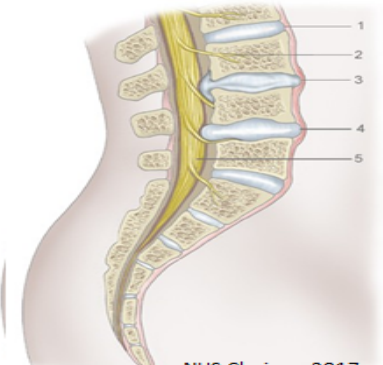
Cauda Equina Syndrome A4 Cue Card

Acknowledgement: Greenhalgh S, Truman C, et al. (2016) Development of a toolkit for early identification of cauda equina syndrome. *Primary Health Care Research & Development*, Vol.17, pp.559-567

CAUDA EQUINA SYNDROME WARNING SIGNS

R
E
D
F
L
A
G
S

- Loss of feeling/pins and needles between your inner thighs or genitals
- Numbness in or around you back passage or buttocks
- Altered feeling when using the toilet paper to wipe yourself
- Increasing difficulty when you try to urinate
- Increasing difficulty when you stop or control your flow of urine
- Loss of sensation when you pass urine
- Leaking urine or recent need to use pads
- Not knowing when your bladder is full or empty
- Inability to stop a bowel movement or leaking
- Loss of sensation when you pass a bowel motion
- Change in ability to achieve an erection or ejaculate
- Loss of sensation in genitals during sexual inter-course



NHS Choices, 2017


Any combination of the above warning signs could be symptoms of Cauda Equina Syndrome. Seek Emergency medical help within 12 to 24 hours

Cauda Equina Syndrome Patient Information Card

Acknowledgement: Greenhalgh S, Truman C, et al. (2016) Development of a toolkit for early identification of cauda equine syndrome. *Primary Health Care Research & Development*, Vol.17, pp.559-567




Musculoskeletal Association Chartered Physiotherapists


<https://www.macpweb.org/Cauda-Equina-Information-cards>



Common Back Pain

Many patients have a combination of back pain, leg pain, leg numbness and weakness. These symptoms can be distressing for you but don't necessarily require emergency medical attention. **A rare but serious back condition, Cauda Equina Syndrome, can lead to permanent damage or disability and will need to be seen by an Emergency Specialist Spinal Team. See other side of card for some warning signs of Cauda Equina Syndrome.**



Cauda Equina Syndrome Warning Signs

- Loss of feeling/pins and needles between your inner thighs or genitals
- Numbness in or around your back passage or buttocks
- Altered feeling when using toilet paper to wipe yourself
- Increasing difficulty when you try to urinate
- Increasing difficulty when you try to stop or control your flow of urine
- Loss of sensation when you pass urine
- Leaking urine or recent need to use pads
- Not knowing when your bladder is either full or empty
- Inability to stop a bowel movement or leaking
- Loss of sensation when you pass a bowel motion
- Change in ability to achieve an erection or ejaculate
- Loss of sensation in genitals during sexual intercourse

**Any
combination
seek help
immediately**

International Translations

DynamicHealth have created PDF to download for use to print out and give to patients

<https://www.eoemskservice.nhs.uk/advice-and-leaflets/lower-back/cauda-equina>

Differential Diagnosis and Confusing Scenarios

It is not uncommon for patients with severe back and leg pain to complain of difficulty passing urine due to the following possible causes:

- Severe pain. This can inhibit bladder functioning or disrupt normal function.
- Opiate analgesia. Strong pain killers are usually opiates (Morphine type drugs) and these affect the bladder sphincters.
- Other genito-urinary problems are many.

Differential Clues:

- Normally the above causes of bladder dysfunction are temporary or intermittent short lasting few hours only.
- Anxiety plays a part in bladder function problems usually with pain control and relaxation the patient can pass urine.
- These patients usually do not have a significant complaint of sensory impairment in the saddle region.

NB: Often the bladder problem is in isolation in these cases.

Urinary Retention

There are many possible causes of urinary retention including obstruction of the urinary tract or problems of the nervous system. Consider the following:

1. Nerve Disease or Nerve / Spinal Cord Injury: e.g. vaginal childbirth, infections of brain or spinal cord, diabetes, stroke, injury to nervous system of spine or pelvis, Multiple Sclerosis, heavy metal poisoning.
2. Prostate Enlargement: The male prostate gland may enlarge with age (benign prostatic hyperplasia or consider malignancy). As the prostate enlarges it presses on the urethra resulting in the bladder wall becoming thicker and irritable. The bladder may then contract even when holding only small amount of urine = frequency. Eventually the bladder may weaken and loses the ability to empty itself, so urine remains.
3. Infection: A urinary tract infection (UTI) may cause retention if the urethra becomes inflamed and swells shut.
4. Post-surgery: Temporary urinary retention is not uncommon due to anaesthetic nerve block.
5. Medication: Many drugs may contribute to difficulties voiding e.g. antimuscarinic, sympathomimetics, tricyclic antidepressants, antihistamines, anti-epileptics, anti-psychotics and opioids.
6. Bladder Stone: Can cause urinary tract blockage
7. Prolapse of anterior or posterior vaginal wall: Could cause urinary incontinence or retention.
8. Constipation: Hard stool in the rectum can pinch shut the urethra but is more likely in the presence of retrocele.
9. Urethral Stricture: This is a narrowing or closure of urethra E.g. trauma or infection.
10. Fowler's Syndrome: Can cause retention of urine without evidence of urological, gynaecological or neurological disease.
11. Suspected Cancer: Recognition and referral Ref: 2015 <https://www.nice.org.uk/guidance/ng12/>