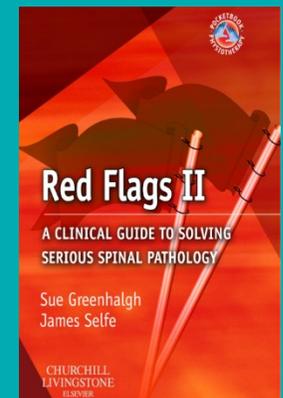
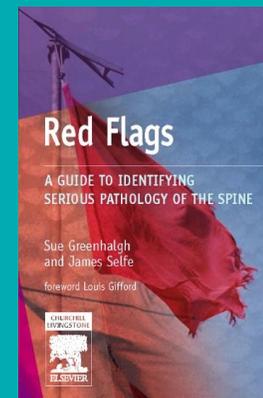
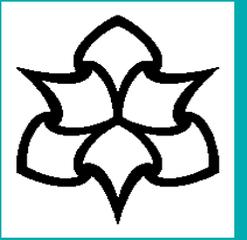


Red Flags for serious spinal pathology: A collaborative approach

Professor James Selfe
DSc, PhD, MA, GD Phys (Distinction), FCSP





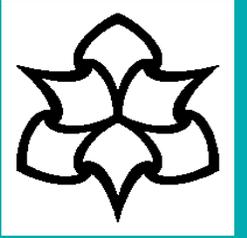
Serious Spinal Pathology Background

Collaboration

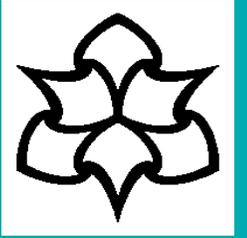
Communication

Solutions

Take Home Messages

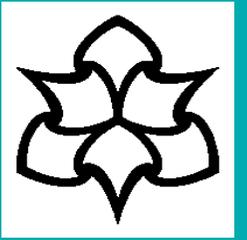


Serious Spinal Pathology: Background

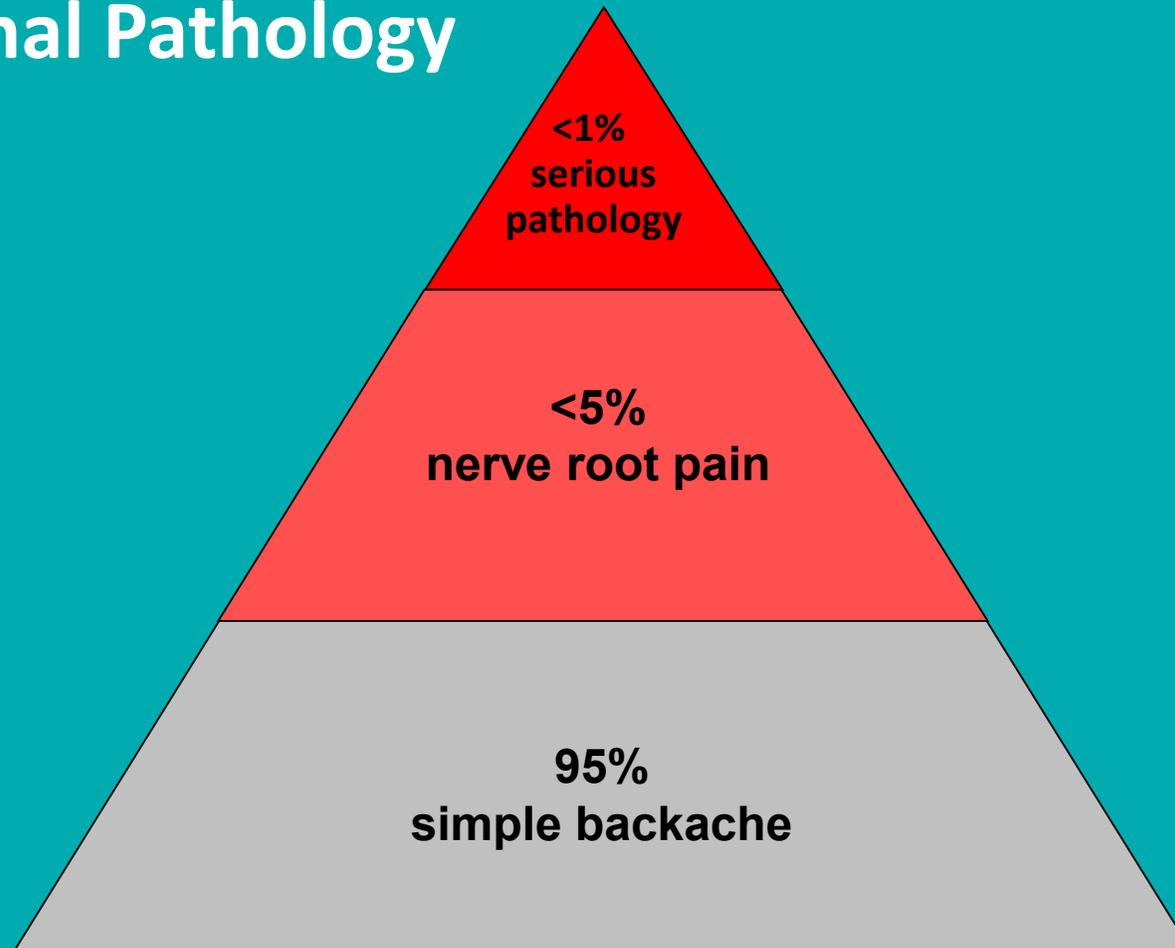


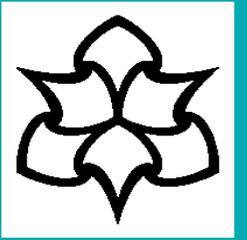
Low back pain (LBP) is a common internationally significant problem

- In 2016, LBP was the leading cause of years lived with disability (YLDs) globally - 57.6 million YLDs in 195 countries
- For most people it is not possible to identify a specific nociceptive cause for their back pain



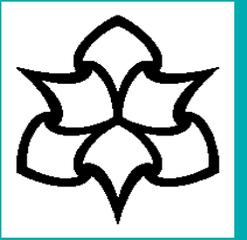
Serious Spinal Pathology





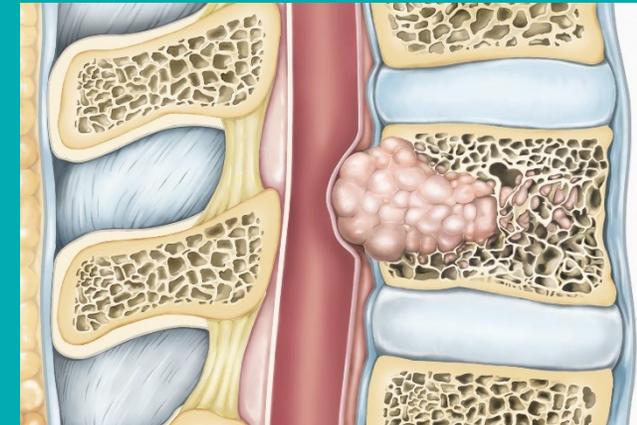
Serious spinal pathology

- Inflammatory
- Metabolic
- Infective
- Neoplastic
- Mechanical

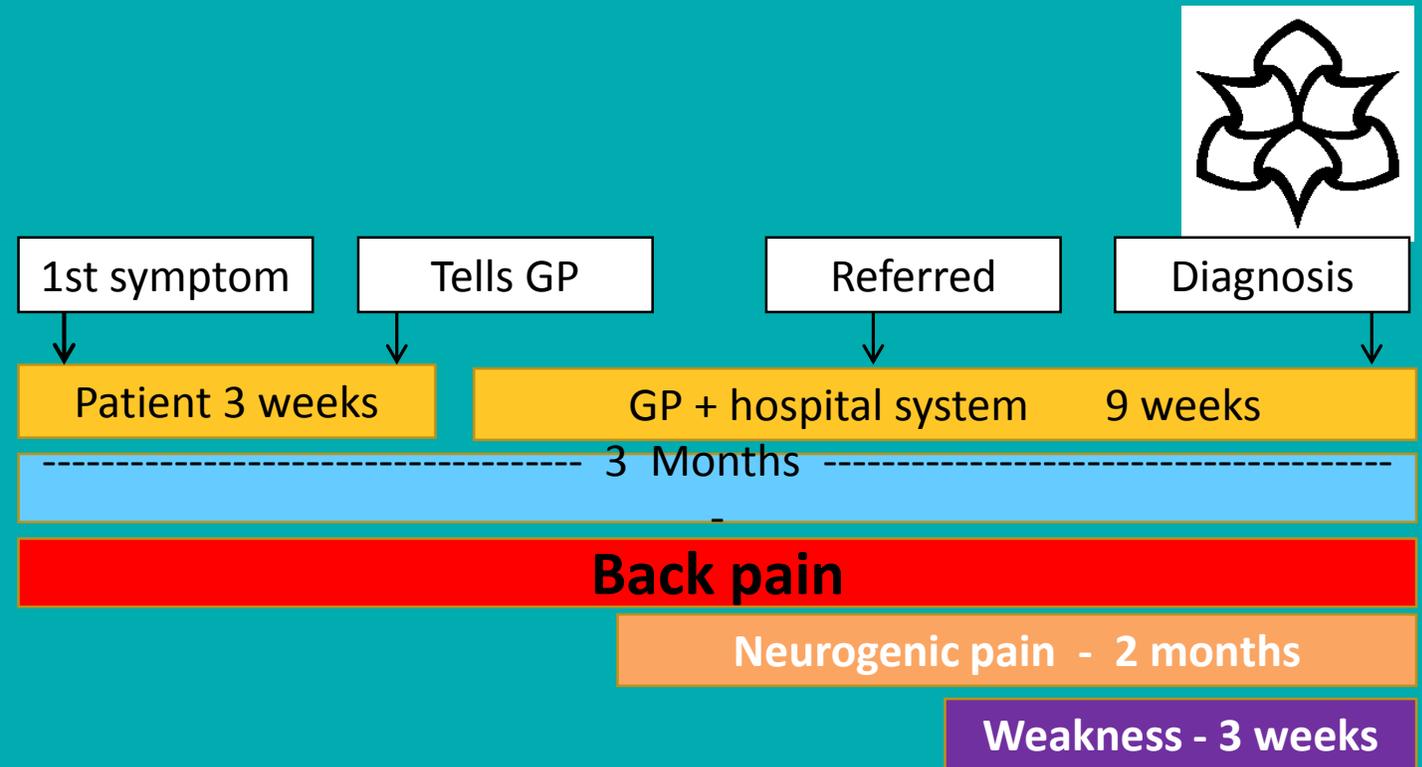


Metastatic Spinal Cord Compression (MSCC)

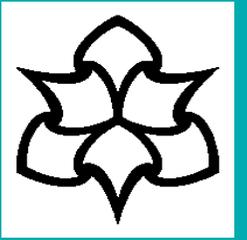
- MSCC occurs when there is pathological vertebral body collapse or direct tumour growth causing compression of the spinal cord leading to irreversible neurological damage
- Severe pain
- Paraplegia
- Quadriplegia
- Double incontinence



MSCC



- Patients typically present to a variety non-specialist practitioners within 3 weeks of the onset of Back Pain
- 23% of MSCC cases initially present with no primary diagnosis or signs of cancer

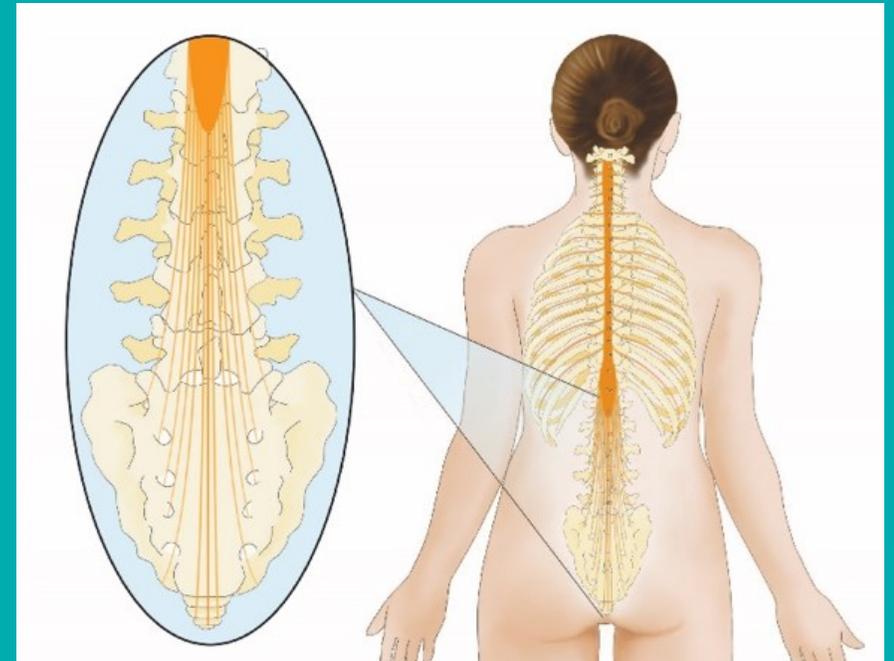


Cauda Equina Syndrome (CES)

Occurs as a consequence of the loss of function of two or more of the eighteen nerve roots which comprise the cauda equina

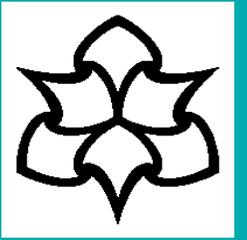
CES can lead to

- permanent loss of bowel and bladder control
- sexual dysfunction
- paralysis



The British Association of Spinal Surgeons (2015)

'Nothing is to be gained by delaying surgery and potentially much to be lost; surgery should be carried out as soon as is practically possible.'



The challenge of Serious Spinal Pathology is to Improve Patient Outcomes

Best outcomes with early diagnosis

- Patients can present anywhere with a wide variety of signs and symptoms

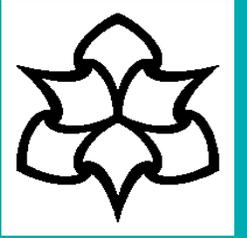
Primary/Secondary care

- Patients need urgent diagnosis

MRI Scan

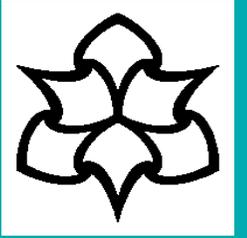
- Referral to and treatment in specialist centres

Specialist surgery



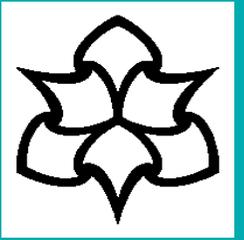
Red Flags

- Red Flags are possible indicators of serious spinal Pathology
- The guidelines for the physiotherapy management of low back pain (CSP 2007) reported that there were **163** individual items that could be considered as Red Flags
- Clearly this presents a problem in terms of the clinical utility of Red Flags
- A user friendly list of Red Flags is required for ‘generalist’ front-line clinicians



Financial consequences of missing serious pathology

- In 2004 the total cost of immediately paying all outstanding clinical negligence claims was £7.78 billion (~13% NHS budget)
- The average compensation per case for CES
£336,000 UK
\$549,427 US
- Highest settlement for a single CES case (2003-2008) = £2,041,000



Confusing clinical picture
Lots of potential Red
Flags

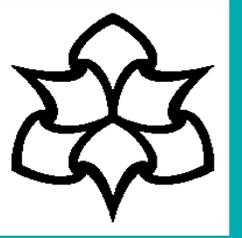
Summary



Rare conditions
Looking for a needle in a
very large haystack

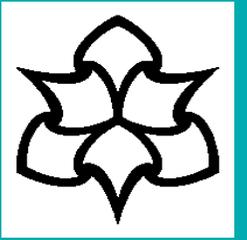


Very significant
consequences if missed



Collaboration

Bolton **NHS**



Module leader for 3rd year module Advanced Orthopaedics (2001)

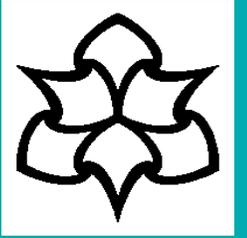
- Guest lecture format
- Serious Spinal Pathology Case studies – *“Wow that was really interesting, you should write this up for other people.”*
- 1 year later same conversation!
- *“OK I will on the condition that you help!”*

Physiotherapy

2003

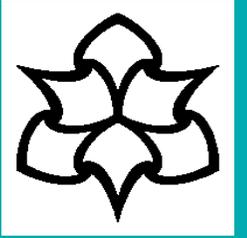
Malignant myeloma of the spine

89 (8) 486-488



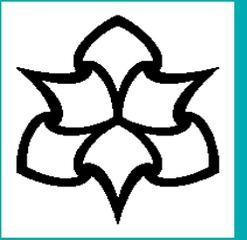
‘Hidden’ expert knowledge of Serious Pathology

- Professional silos of information
- Cross boundary working sharing expertise
- Specialists in one sector educating staff in other sectors



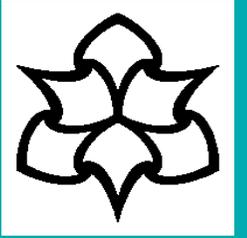
Examples of collaborations

- Greater Manchester & Cheshire Cancer Network
Orthopaedic surgeons, GP with special interest in oncology
- Christies NHS Foundation Trust (European Cancer Centre)
Oncologists, Palliative Care Specialists, physiotherapists
- Extended scope physiotherapy practitioners in general hospitals
- St Catherines Hospice
Oncologists, Palliative Care Nurses



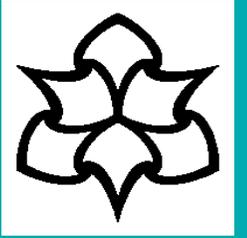
But who are the real experts?

- What symptoms do patients actually suffer
- What is patients understanding of these symptoms
- What is patients experience of divulging sensitive personal information (*bladder, bowel, sexual function*)



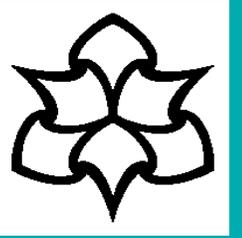
Patients are the experts

- Management of serious spinal pathology is often time critical
- Patients have first-hand knowledge of their own symptoms hour by hour

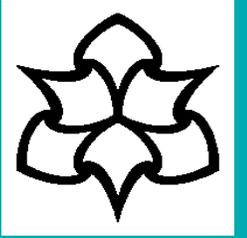


Multiple Qualitative Methods

- General public - experienced based design project (London Taxi)
- Individual in-depth patient interviews
- Focus groups with physiotherapists
- Nominal Group Technique with hospice palliative care specialists (variety of professions)
- Consensus meetings & peer review

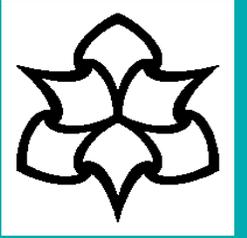


Communication



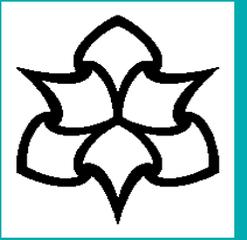
**“I’m in agony!
Why are you asking if I can wee?”**

In the presence of catastrophic pain Red Flag questions appear stupid and irrelevant



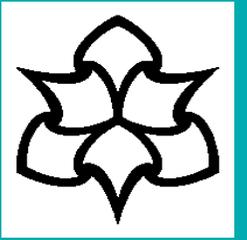
Communication

- Ask the patients the right questions in the right way
- Empower the patients to understand their condition and respond appropriately during consultations



Asking the patients the right questions in the right way

- No recognition of the importance of Red Flag questions
- A lack of awareness that these conditions could be life changing with permanent consequences
- Recollection of Red Flag questions being asked was inconsistent some felt that they had never actually been asked Red Flag questions despite these being recorded in the patient notes (effect of severe pain)

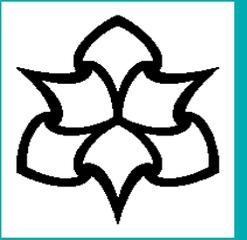


Ask patients the right questions in the right way

- Communication of the gravity of Red Flag questions is key
frame your questions

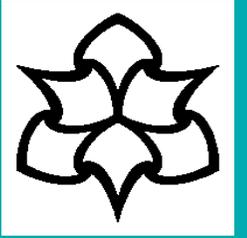
“I am now going to ask you some really important questions”

- This phraseology will help to focus the patients thinking
- Explicit language understood by patients is vital
“If I had been told numbness around back passage or genitals...everyone I saw who was medically trained called it saddle numbness”

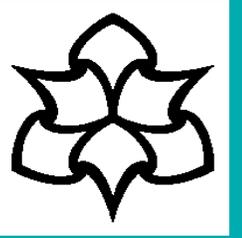


Empower your patients

- As timing to surgical opinion is paramount, patients need to be given detailed information of what symptoms to look out for and precisely what to do about health seeking
- What action?
- What time frame?



Solutions



MSCC credit cards



METASTATIC SPINAL CORD COMPRESSION (MSCC) KEY RED FLAGS

Past Medical History of Cancer

(but note 25% patients do not have a diagnosed primary)

Early Diagnosis is essential

as the prognosis is severely impaired once paralysis occurs

A combination of Red Flags increases suspicion

(the more red flags the higher the risk and the greater the urgency)

To access the MSCC guidelines go to: www.gmccn.nhs.uk

Greenhalgh & Selfe (2009)

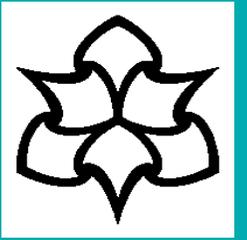
GREATER MANCHESTER AND CHESHIRE
CANCER NETWORK



Early warning signs of MSCC (Undiagnosed primary malignancy)

- R** Referred pain that is multi-segmental or band-like
- E** Escalating pain which is poorly responsive to treatment (incl medication)
- D** Different character or site to previous symptoms
- F** Funny feelings, odd sensations or heavy legs (multi-segmental)
- L** Lying flat increases pain
- A** Agonising pain causing anguish and despair
- G** Gait disturbance, unsteadiness, especially on stairs (not just a limp)
- S** Sleep grossly disturbed due to pain being worse at night

NB—Established motor/sensory/bladder/bowel disturbances → late signs



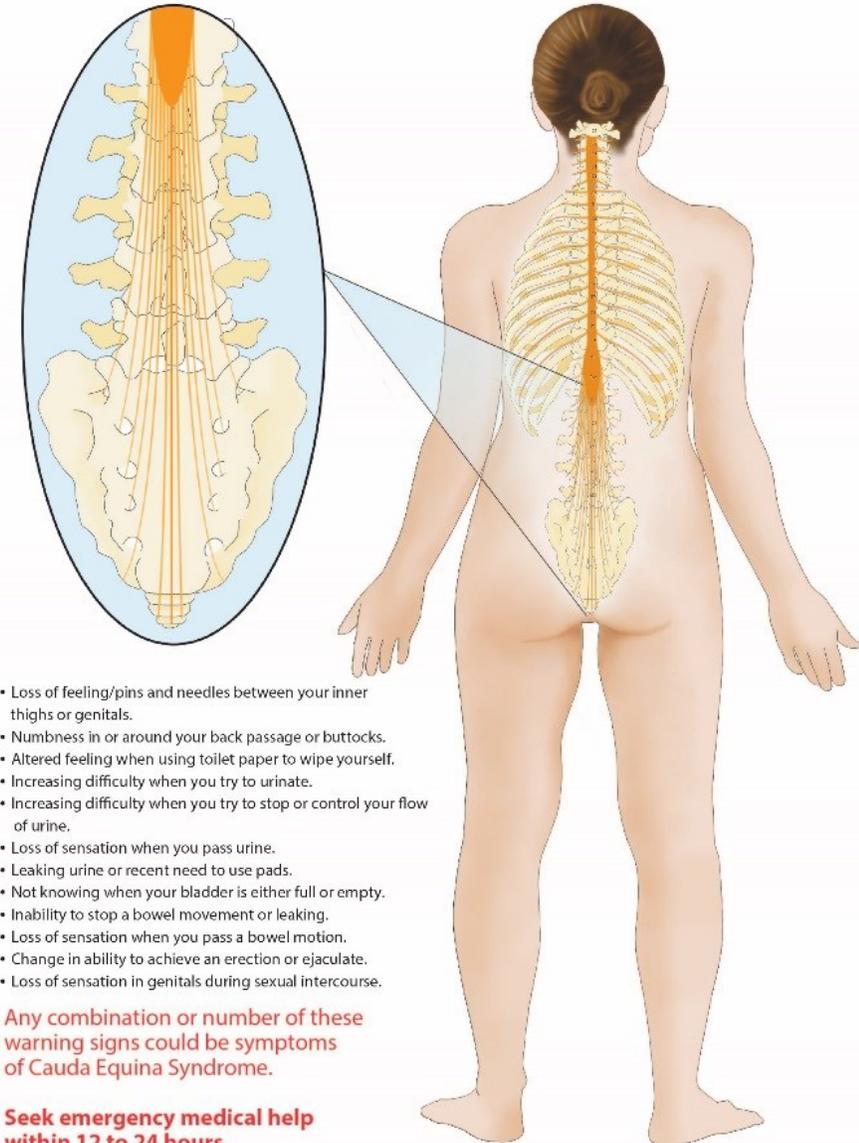
MSCC cards

- Easy to carry and easy to use in the clinical workplace
- Cards cost just 9 pence to produce
- QIPP toolkit (2012): *“The cost of circulating 9000 cards at £800 would be far outweighed by the cost saved if even one case of MSCC is diagnosed early or prevented.”*
- Approximately 500,000 printed



CES clinician cue card

- 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
- 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



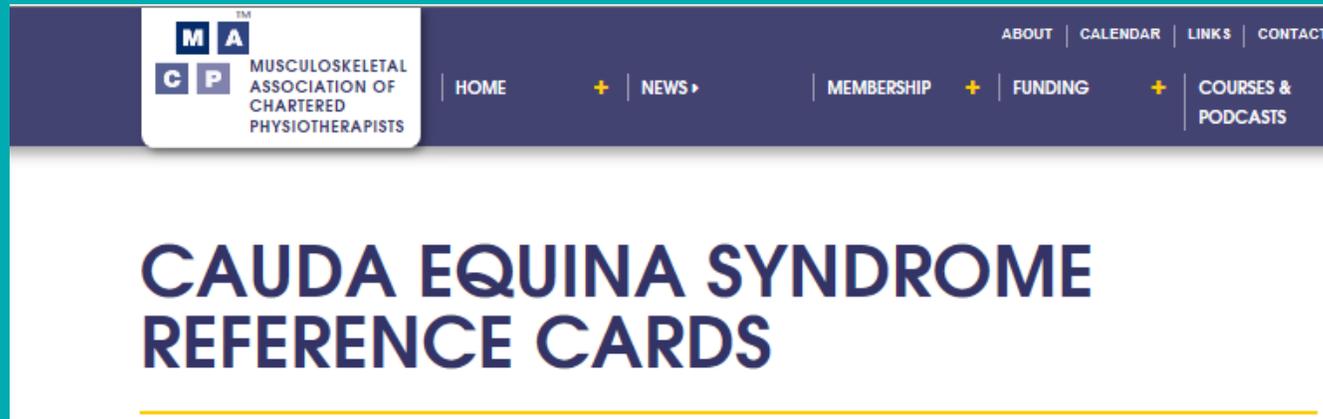
- Loss of feeling/pins and needles between your inner thighs or genitals.
- Numbness in or around your back passage or buttocks.
- Altered feeling when using toilet paper to wipe yourself.
- Increasing difficulty when you try to urinate.
- Increasing difficulty when you try to stop or control your flow 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 or number of these warning signs could be symptoms of Cauda Equina Syndrome.

Seek emergency medical help within 12 to 24 hours.

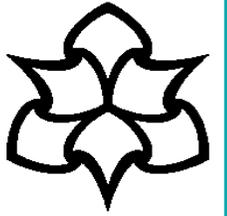
CES cards

- Translated into 28 Languages
- <https://macpweb.org/home/index.php?p=548>



The screenshot shows the website header for the Musculoskeletal Association of Chartered Physiotherapists (MACP). The header includes the MACP logo and navigation links: HOME, NEWS, MEMBERSHIP, FUNDING, and COURSES & PODCASTS. Below the header, the main heading reads "CAUDA EQUINA SYNDROME REFERENCE CARDS".

File	File size	Download
Arabic - CES card	441.55 KB	DOWNLOAD
Bengali - CES card	468.43 KB	DOWNLOAD
Cantonese - CES card	326.22 KB	DOWNLOAD
Czech - CES card	248.25 KB	DOWNLOAD
Dari - CES card	422.57 KB	DOWNLOAD
Farsi - CES card	474.62 KB	DOWNLOAD
French - CES card	236.06 KB	DOWNLOAD
German - CES card	268.76 KB	DOWNLOAD
Greek - CES card	339.50 KB	DOWNLOAD
Gujarati - CES card	385.31 KB	DOWNLOAD
Hindi - CES card	532.29 KB	DOWNLOAD
Hungarian - CES card	250.28 KB	DOWNLOAD
Indian Punjabi - CES card	360.26 KB	DOWNLOAD
Italian - CES card	242.88 KB	DOWNLOAD
Kurdish Sorani - CES card	445.22 KB	DOWNLOAD
Lithuanian - CES card	253.50 KB	DOWNLOAD
Mandarin - CES card	277.95 KB	DOWNLOAD
Pakistani Punjabi - CES card	390.64 KB	DOWNLOAD
Polish - CES card	317.13 KB	DOWNLOAD
Portuguese - CES card	258.15 KB	DOWNLOAD
Romanian - CES card	248.33 KB	DOWNLOAD
Russian - CES card	349.19 KB	DOWNLOAD
Slovak - CES card	246.75 KB	DOWNLOAD
Somali - CES card	328.52 KB	DOWNLOAD
Spanish - CES card	236.26 KB	DOWNLOAD
Turkish - CES card	259.34 KB	DOWNLOAD
Urdu - CES card	434.21 KB	DOWNLOAD



Häufige Rückenschmerzen (German Translation)

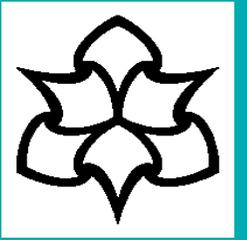
Viele Patienten leiden unter einer Kombination aus Rückenschmerzen, Schmerzen und Taubheitsgefühl in den Beinen sowie Schwächegefühl. Diese Symptome können für Sie Besorgnis erregend sein, benötigen jedoch nicht unbedingt sofortige ärztliche Behandlung. **Ein seltenes aber ernstes Rückenleiden ist das Cauda Equina Syndrom. Es kann zu dauerhafter Schädigung oder Behinderung führen und muss von einem Notfallteam von Rückenspezialisten untersucht werden. Auf der Rückseite dieser Karte finden Sie einige Warnzeichen für das besagte Cauda Equina Syndrom.**



Cauda Equina Syndrom Warnzeichen

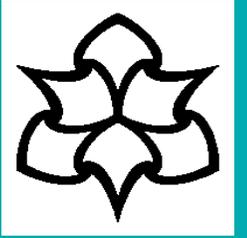
- **Gefühlsverlust/Kribbeln zwischen im Inneren der Schenkel oder Genitalien**
- **Taubheitsgefühl in oder um den Anus oder das Gesäß**
- **Verändertes Gefühl bei der Verwendung von Toilettenpapier im Intimbereich**
- **Zunehmende Schwierigkeiten beim Urinieren**
- **Zunehmende Schwierigkeiten beim Stoppen des Harnflusses oder Versuch diesen zu kontrollieren**
- **Gefühlsverlust beim Harn lassen**
- **Austritt von Urin oder akute Notwendigkeit der Verwendung von Binden**
- **Kein Gefühl mehr für eine volle respektive leere Blase**
- **Unfähigkeit Stuhlgang oder Tropfen zu stoppen**
- **Gefühlsverlust bei Stuhlgang**
- **Veränderung in der Fähigkeit eine Erektion zu haben oder zu ejakulieren**
- **Gefühlsverlust in den Genitalien während des Geschlechtsverkehrs**

Beim Vorkommen einzelner oder mehreren Symptomen suchen Sie in jedem Falle sofort einen Arzt auf.



Key Clinical Take Home Messages

- There is a vast range of potential signs and symptoms for serious spinal pathology
- Patients do not recognise the importance of Red Flag questions particularly in the context of excruciating pain therefore you must frame your questions
- There should be a low threshold for further investigation
- If in doubt – refer, time to surgical intervention is critical



Key Research Take Home Messages

- Important information is often held within professional silos
- Collaboration is vital so that expertise in one field can inform practice in another
- Remember the patients are the experts



https://www.researchgate.net/profile/James_Selfe

http://www2.mmu.ac.uk/health-professions/staff/profile/index.php?profile_id=2217