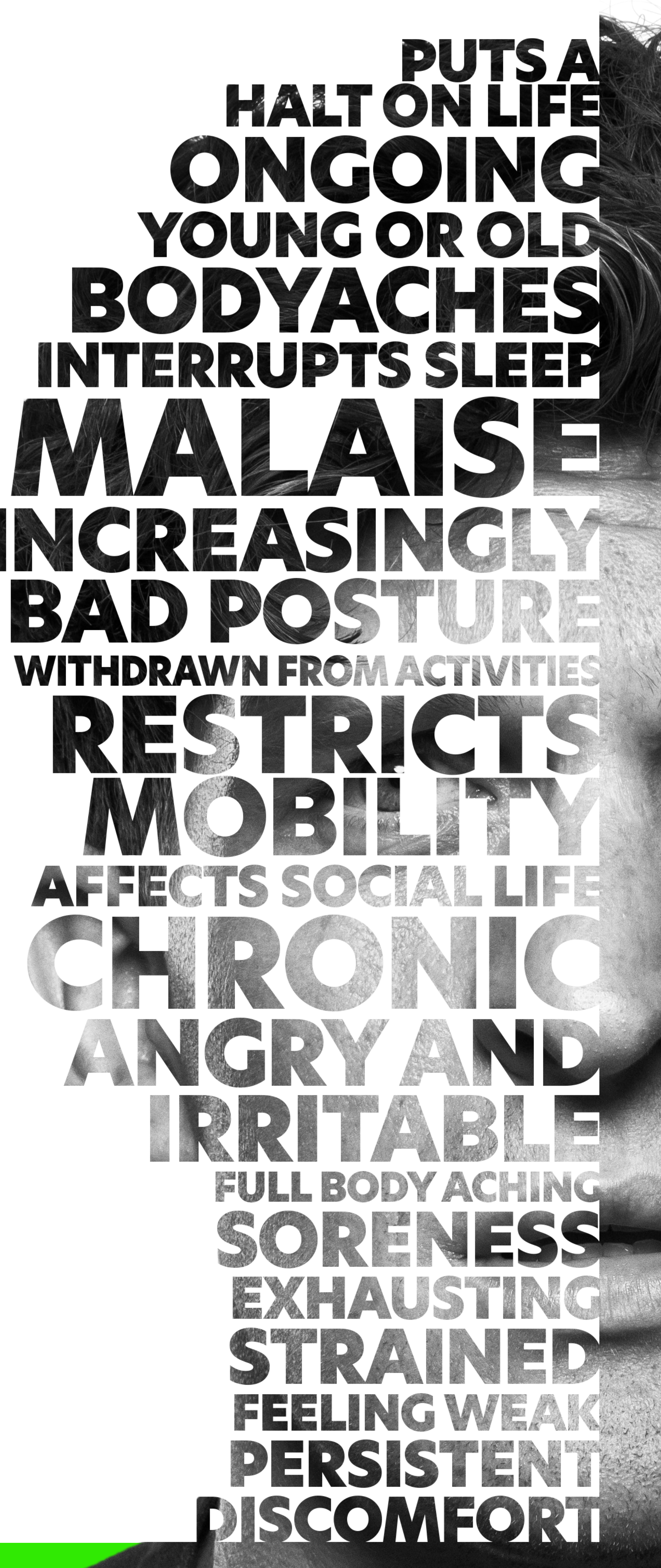
HALEON



Patient **case study.**

Musculoskeletal pain

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Presentation

Andrew

52 years.

Andrew hurt his lower back while playing squash.

The initial pain is better, however, he still has a dull ache which is a cause of irritation.

He complains of a shooting pain down his legs when he bends down to tie his shoelaces.

Past history and family history:

Hypertensive for 3 years and further investigations revealed dyslipidemia.

At present, takes lisinopril and atorvastatin tablets for hypertension and dyslipidemia, respectively.

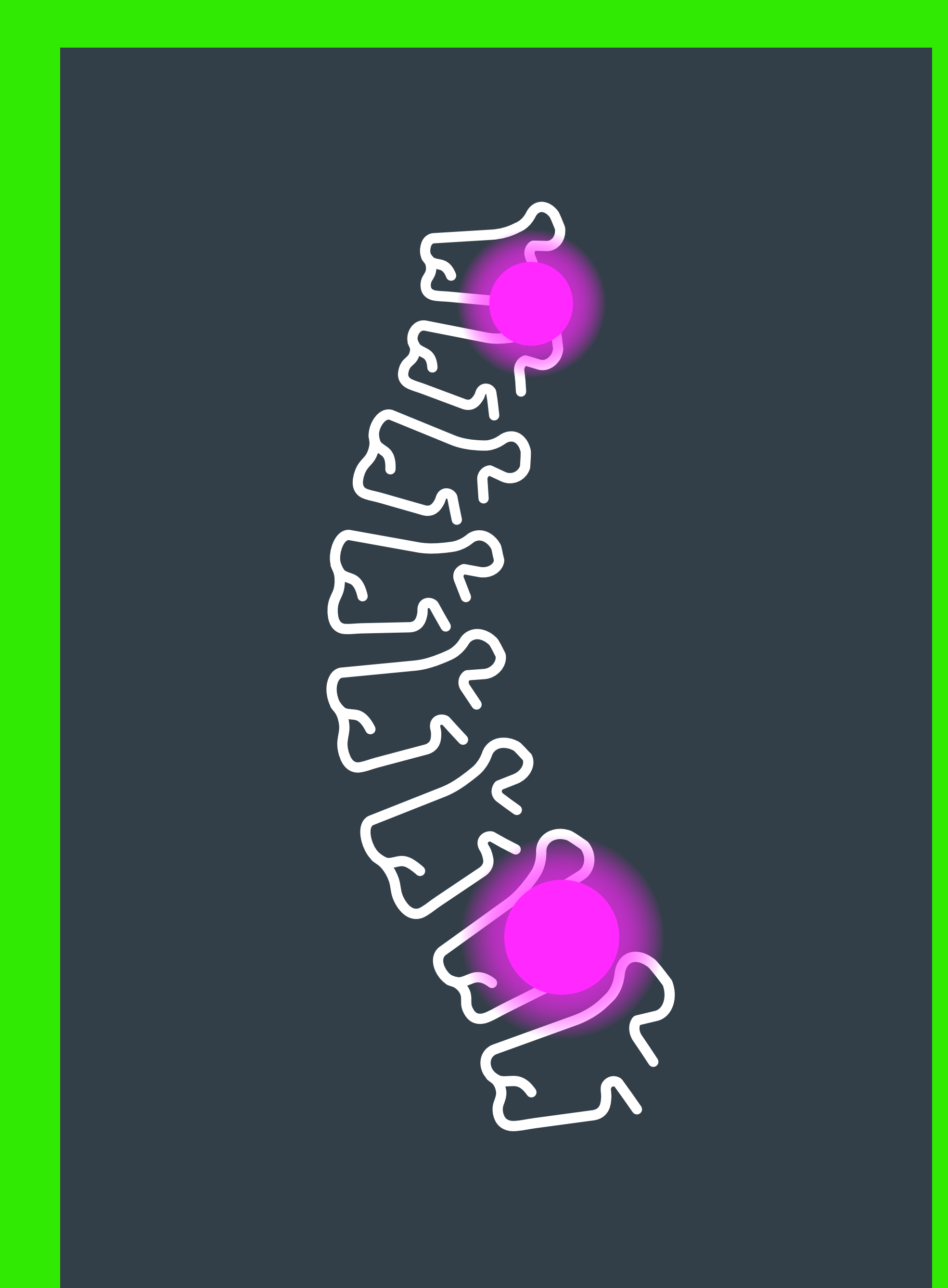
No family history of any medical illness.

He requests medication.

What do **you advise?**

Clinical examination

- General appearance: Appeared uneasy and tense.
- Well-nourished.
- BP: 134/88mmHg, PR: 78bpm.
- BMI: 26.0.
- Lungs/CVS/Abdomen: NAD.
- CNS: NAD.
- Gait: Stable.
- Increase in pain and tenderness in lower back on movement and bending, limited range of spinal motion, negative straight leg raise test, no paresthesia, normal reflexes.



BMI, body mass index; BP, blood pressure; CNS, central nervous system; CRP, C-reactive protein; CVS, cardiovascular system; ESR, erythrocyte sedimentation rate; NAD, nothing abnormal detected; PR, pulse rate.

HALEON

What could be the possible cause for stiffness and pain in Andrew?

ACUTE MUSCULO-SKELETAL INJURY

FRACTURE

INFECTION

CAUDA EQUINA SYNDROME

Clinical examination

What are the red flags that should be looked out for in a patient like Andrew?

	Possible fracture	Possible tumor or infection	Possible cauda equina syndrome
From medical history	Major trauma, such as vehicle accident or fall from height. Minor trauma or even strenuous lifting in an older, or potentially osteoporotic, patient.	Age over 50 or under 20. History of cancer and/or constitutional symptoms, such as recent fever or chills or unexplained weight loss. Risk factors for spinal infection: recent bacterial infection (e.g., UTI), IV drug abuse, or immune suppression, (e.g., from corticosteroids, transplant or HIV). Pain that worsens when supine and/or severe night-time pain.	Saddle anaesthesia. Recent onset of bladder dysfunction, such as urinary retention, increased frequency, or overflow incontinence. Severe or progressive neurological deficit in the lower extremity.
From clinical examination			Peri-anal/perineal sensory loss. Major motor weakness: quadriceps (knee extension weakness); plantar flexors, evertors and dorsiflexors (foot drop).

HIV, human immunodeficiency virus; IV, intravenous; UTI, urinary tract infection.

Differential diagnosis

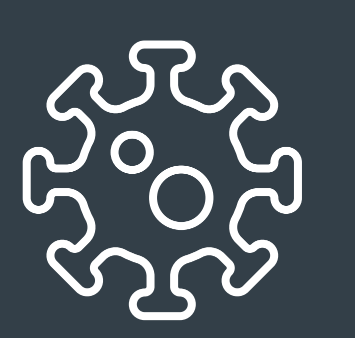
What could the possible cause for the pain be in patients like Andrew?

Acute musculoskeletal pain[1,2]

- Ache, spasm.
- Increases with activity or bending.
- Local tenderness, limited spinal motion.

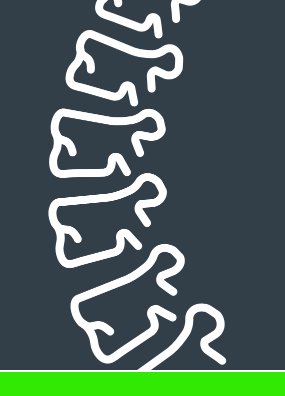
Tumor[3-5]

- Unexplained weight loss, fever or chills.
- Past history of malignant tumour.



Infection[3-5]

- Recent bacterial infection, IV drug abuse, immunocompromised condition.
- Severe pain at night.



Cauda equina syndrome[3-5]

- Bladder dysfunction (urinary retention, occasional overflow incontinence).
- Sphincter disturbance.
- Saddle anesthesia.
- Global or progressive weakness in the lower limbs or gait disturbance.

IV, intravenous.

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Approach to management of acute musculoskeletal pain.

01

What are the modalities of treatment?

02

What is the clinical evidence?

03

What do guidelines say regarding the most suitable management?

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Treatment plan

What **modalities** can **be used** to treat patients like Andrew?

PHYSICAL THERAPY

PATIENT EDUCATION

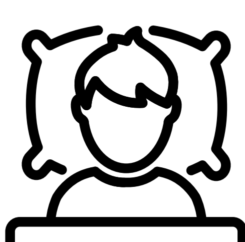
PHARMACOLOGICAL MANAGEMENT

ALL OF THE ABOVE

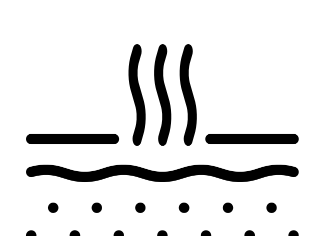
Treatment plan

What modalities can be used to treat patients like Andrew?

Adequate rest for 2-3 days and slowly resume daily activities[1,2]



Physical therapy e.g., superficial heat[2]



Patient education to avoid re-injury[1]

Pharmacological management e.g., oral analgesics[3]

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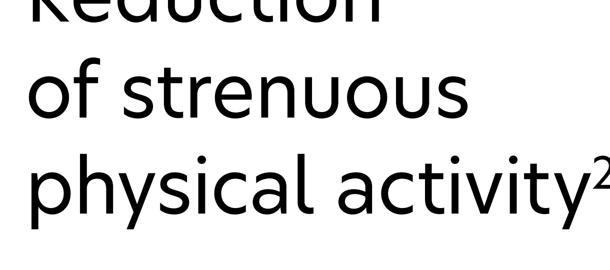
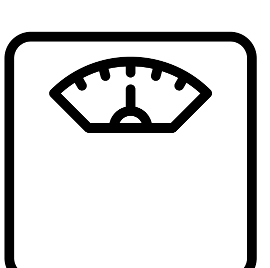
2. Accident Compensation Corporation (ACC). New Zealand acute low back pain guide. Available at: www.acc.co.nz/assets/provider/lower-back-pain-guide-acc1038.pdf (last accessed May 2021). 3. Annals of Internal Medicine. Noninvasive treatments for acute, subacute, and chronic low back pain: A clinical practice guideline from the American College of Physicians. Available at: www.acpjournals.org/doi/full/10.7326/M16-2367 (last accessed May 2021).

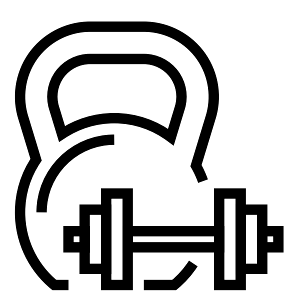
Lifestyle modifications for Andrew.



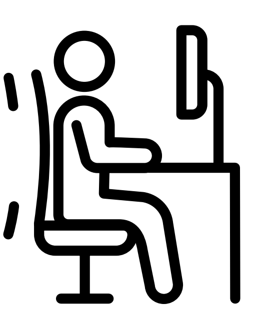
Weight management[1]



Reduction of strenuous physical activity[2]

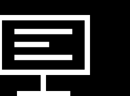


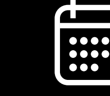
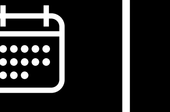
Ergonomic adaptations in the workplace[1,3]

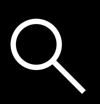


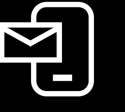
Appropriate posture training for sitting, driving and lifting[1,3]

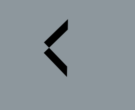
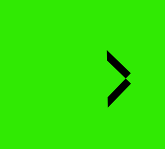
1. NSW Therapeutic Assessment Group. Low back pain. Rational use of opioids in chronic or recurrent non-malignant pain: prescribing guidelines for primary care clinicians. Available at: www.nswtag.org.au/wp-content/uploads/2017/08/pain-low-back-gp-dec-2002.pdf (last accessed May 2021). 2. Accident Compensation Corporation (ACC). New Zealand acute low back pain guide. Available at: www.acc.co.nz/assets/provider/lower-back-pain-guide-acc1038.pdf (last accessed May 2021). 3. Annals of Internal Medicine. Noninvasive treatments for acute, subacute, and chronic low back pain: A clinical practice guideline from the American College of Physicians. Available at: www.acpjournals.org/doi/full/10.7326/M16-2367 (last accessed May 2021).





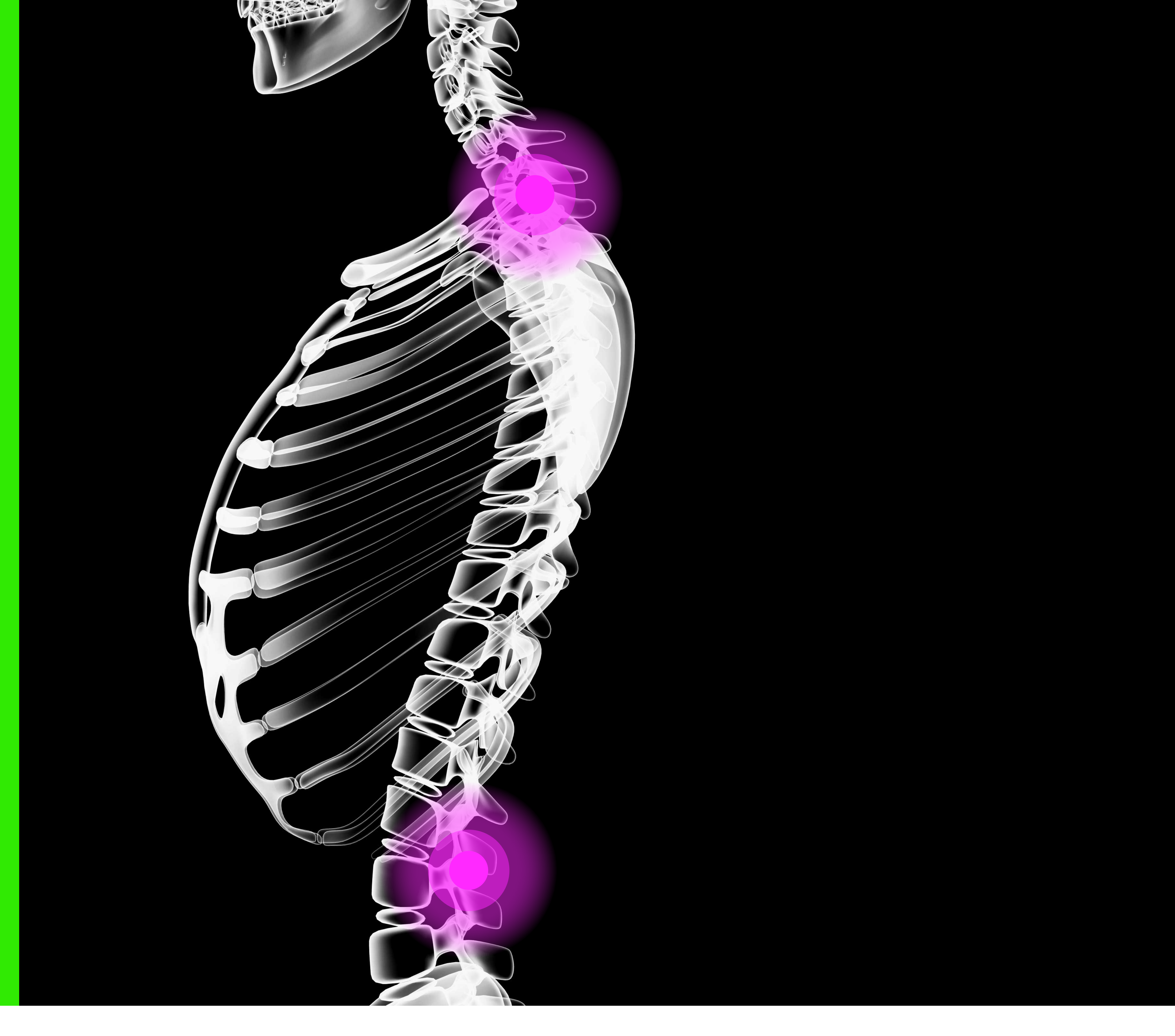


Clinical evidence

The advice summarized in this chart is based on scientific evidence in current, published clinical treatment guidelines and peer-reviewed literature.

Pain type	OTC analgesics		
	Topical diclofenac	Oral Ibuprofen	Acetaminophen
Mild to Moderate Pain	✕	✓	✓
Musculoskeletal (MSK) pain	✕	✓	✓



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Summary

Andrew is a 52-year-old man who hurt his lower back while playing squash.

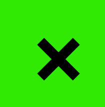
The initial severe pain got better; however, he still had a dull ache, which was a cause of irritation.

Additionally, he complained of a shooting pain when he bent down to tie his shoelaces.

On examination, there was pain and tenderness in lower back, which increased on movement and bending, limited range of spinal motion, negative straight leg raise test, no paresthesias, normal reflexes.

He was diagnosed with **acute musculoskeletal pain**.

He was recommended to take 200mg of ibuprofen every 4-6 hours while symptoms persist.



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