

A red flag is waving on a wooden pole against a cloudy sky. The flag is the central focus, with its folds and ripples clearly visible. The sky is a mix of light and dark grey clouds, providing a textured background for the bright red flag.

Using red flags to identify serious pathology

The evidence

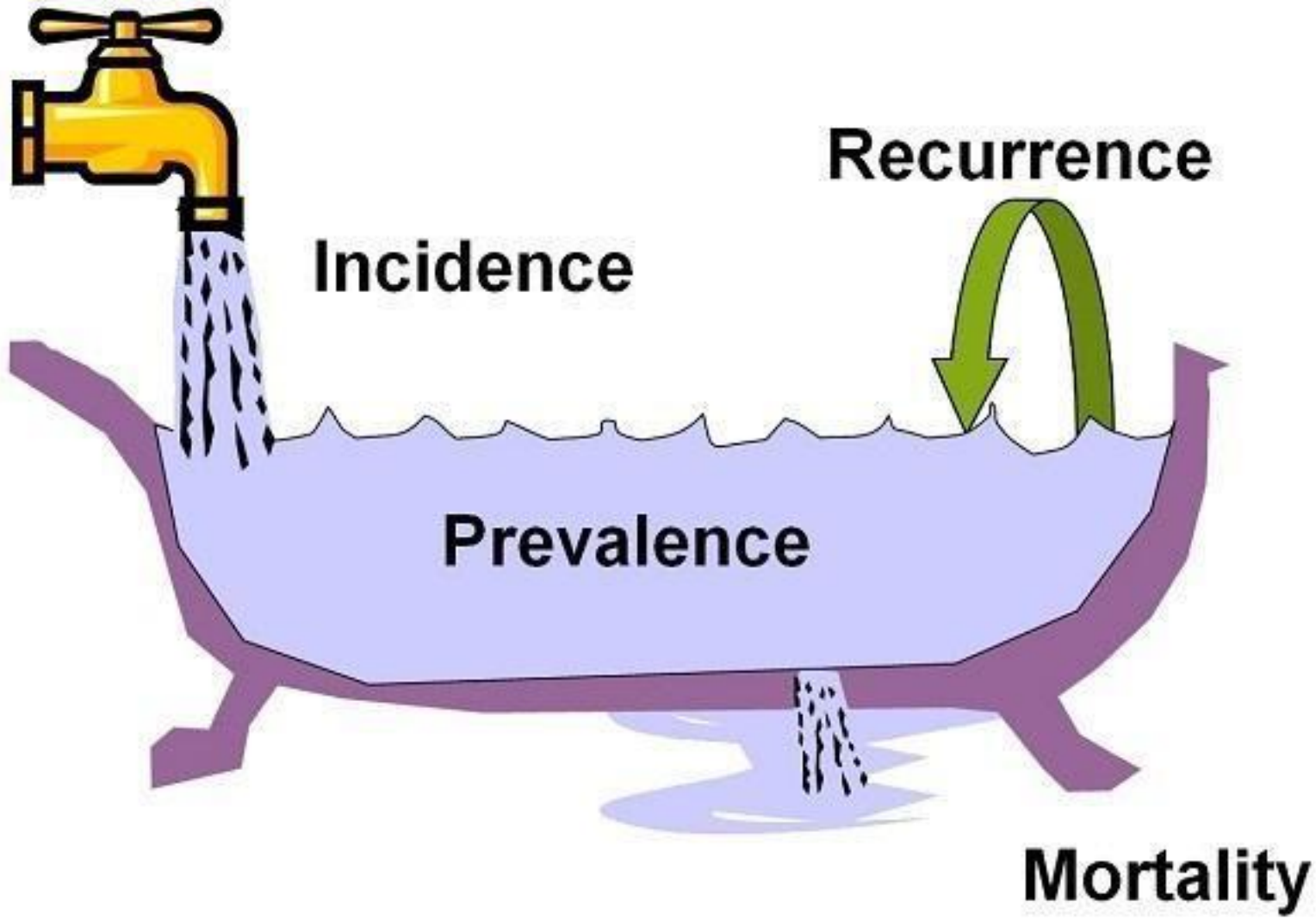
Laura Finucane

November 2017




Duty of Care

- We have almost two decades of back pain literature mentioning Red Flags
- However the documentation of Red Flags remains poor (Ferguson et al, 2010)
- Clinicians have a duty of care to identify Red Flags and to know when onward referral , investigation or more expert help is needed

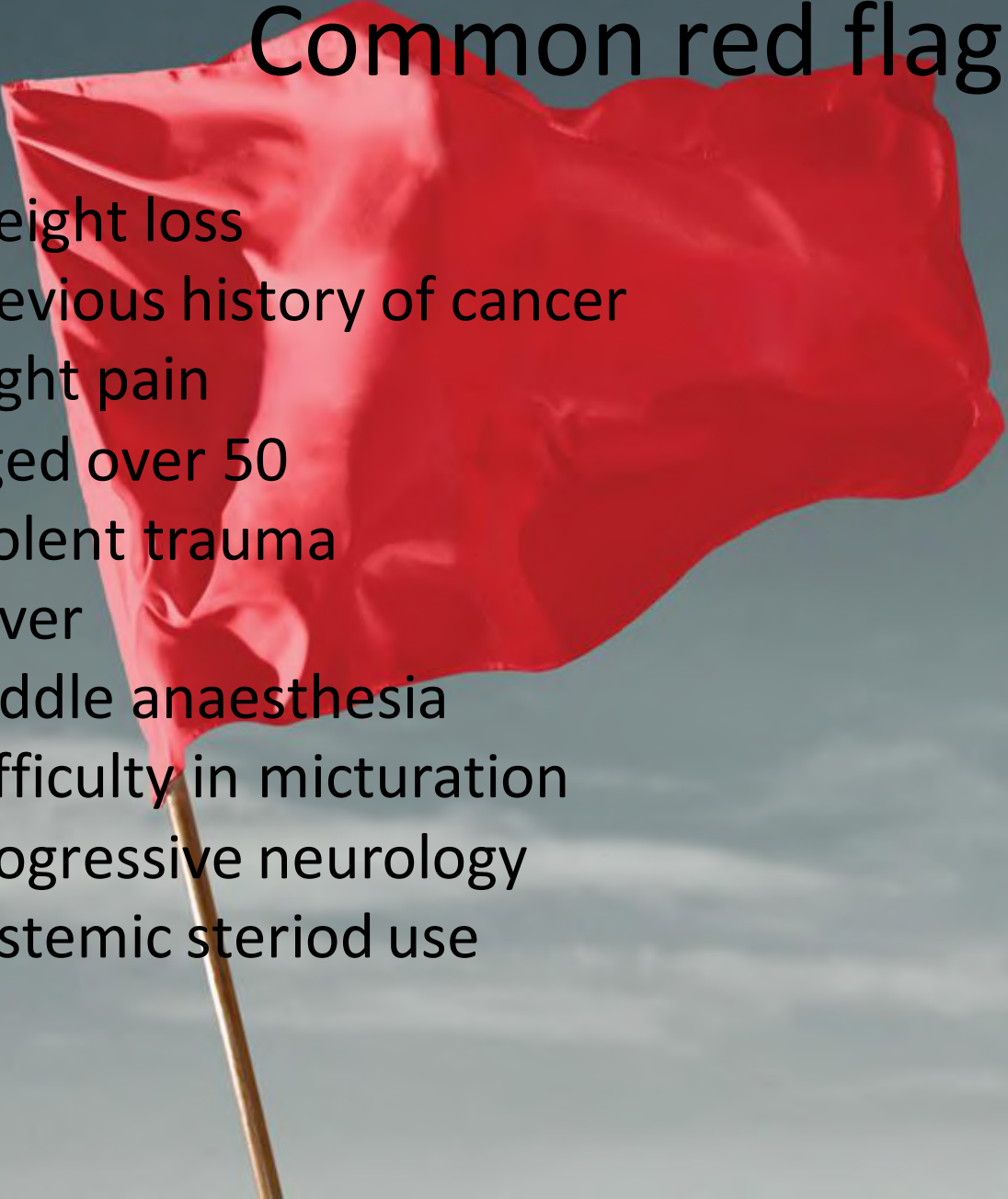


Definition of Red Flags

A red flag is shown waving on a wooden pole against a cloudy sky. The flag is the central focus of the image, with its folds and ripples clearly visible. The sky is a pale, overcast blue-grey color.

- Red Flags are clinical indicators of possible serious spinal pathology
- They are physical manifestations of underlying significant medical pathology

Common red flags

A red flag is waving on a wooden pole against a cloudy sky. The flag is the central focus of the image, with its folds and ripples clearly visible. The sky is a pale, overcast blue-grey color.

- Weight loss
- Previous history of cancer
- Night pain
- Aged over 50
- Violent trauma
- Fever
- Saddle anaesthesia
- Difficulty in micturation
- Progressive neurology
- Systemic steroid use

Serious pathology

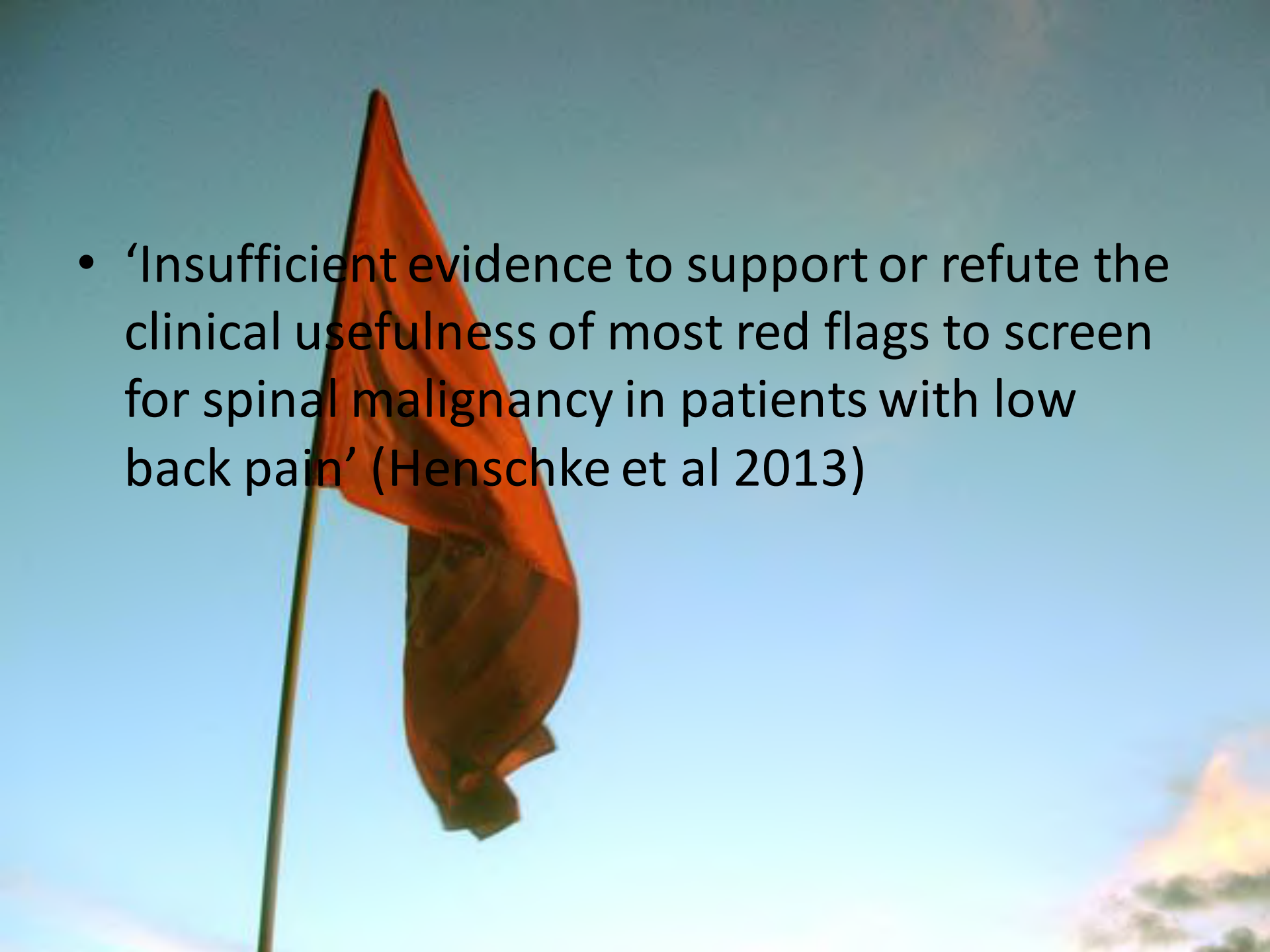
An anatomical illustration of the cauda equina, showing the bundle of spinal nerves in the lumbar region of the spine. The nerves are depicted as a fan-like structure extending downwards from the vertebral column. The surrounding bony structures, including the vertebrae and intervertebral discs, are shown in a light gray, semi-transparent style.

- Malignancy
- Fracture
- Infection
- Cauda Equina syndrome

Other pathologies

A red flag is waving on a thin pole against a background of a cloudy sky. The flag is the central focus of the image, with its folds and movement clearly visible. The sky is a pale, overcast blue with soft, white clouds.

- Sarcoma
- MND
- Ependymoma
- Myeloma
- Lymphoma
- CLL

- 
- A red flag is shown flying on a pole against a clear blue sky. In the bottom right corner, a portion of a sunset or sunrise is visible, with warm orange and yellow light. The text is overlaid on the left side of the image.
- ‘Insufficient evidence to support or refute the clinical usefulness of most red flags to screen for spinal malignancy in patients with low back pain’ (Henschke et al 2013)

Publications in 2017

- Verhagen et al (back pain guidelines)
- Finucane et al (Early detection of MBD)
- Verhagen et al (Malignancy in LBP guidelines)
- Todd (Cauda equina syndrome)
- Cook et al (red flags in practice)

EDITORIALS

Red flags for back pain

A popular idea that didn't work and should be removed from guidelines

Martin Underwood *director, Warwick Clinical Trials Unit*¹, Rachele Buchbinder *professor, Department of Epidemiology and Preventive Medicine, School of Public Health and Preventive Medicine, Monash University*²

PH cancer as a red flag for malignancy is based on one study

There is inadequate evidence for the formulaic use of red flags as a screening tool

“The formulaic use of a red flag of past history of cancer is too blunt an instrument to be used in routine practice without considering the type of cancer and how long ago it was diagnosed”.

(Underwood 2009)

ORIGINAL ARTICLE

Guidelines for cauda equina syndrome. Red flags and white flags. Systematic review and implications for triage

Nicholas V. Todd

White flags = late irreversible stage of the condition (CESR)

Red flags = at risk of developing CES

Concentrate on suspected (CESS) and incomplete (CESI)

Red flags presented in current low back pain guidelines: a review

Arianne P. Verhagen¹ · Aron Downie^{2,3} · Nahid Popal¹ · Chris Maher² ·
Bart W. Koes¹

Conclusions

Lack of consensus between guidelines on which red flags we should use in clinical practice to identify serious pathology.
However almost all were consistent with past history of cancer and unintentional weight loss for malignancy

Clinical Implications

Red flags in isolation

The use of a single red flag to further investigate is not recommended as 80% patients with back pain will have at least 1 red flag and further investigation may cause unnecessary harm.

Red flags in combination

Whilst red flags in combination remain unexplored, experts recognise that people with cancer regularly present with a number of red flags and not a single red flag.



@laurafinucaneB

Red flag screening for low back pain: nothing to see here, move along: a narrative review

Chad E Cook,^{1,2} Steven Z George,^{2,3} Michael P Reiman^{2,4}

‘Screening for red flags associated with LBP does not work’

- Watchful waiting
- Value based care
- Link red flag symptomology with outcomes

Most red flags for malignancy in low back pain guidelines lack empirical support: a systematic review

Arianne P. Verhagen; Aron Downie; Chris G. Maher; Bart W. Koes

- Identified 13 red flags associated with malignancy
- PH Ca and strong clinical suspicion have acceptable diagnostic accuracy

Consider trial of therapy- watch and see

Develop a diagnostic (risk) model might result in better diagnostic accuracy

Which red flags aid the early detection of metastatic bone disease in back pain?

Laura Finucane^{a,*}, Susan Greenhalgh^b and James Selfe^c

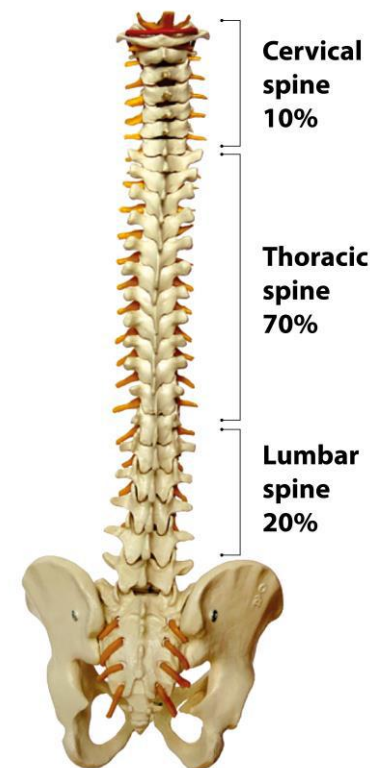
Early identification can impact significantly on a patients prognosis and quality of life

Not all patients with a PH Ca will develop metastases, (eg 30% of breast cancer patients)
who then should we be concerned about?

- Understand the **RELATIVE** risk of metastases in patients with a PH Ca (30% breast cancer patients will develop mets-)
- Closely **OBSERVE** patients at risk over time
- Be suspicious of **NEW** onset of symptoms progressively worsening
- **'OMINIOUS'** Night pain - **AGGRAVATED** by lying rather than relieved



Distribution of MBD affecting the spine
(Breast, prostate & lung have an affinity to the spine)

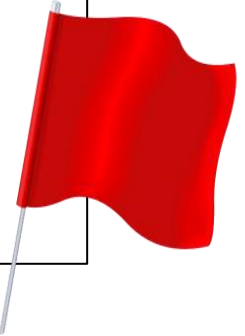


Summary of evidence

- Little or no diagnostic accuracy
- No consensus on which red flags
- Lack of standardised description
- Most guidelines advocated history of cancer and unintentional weight loss for malignancy
- No core set of red flags
- No International consensus

An evidence informed clinical reasoning framework for clinicians in the face of serious pathology in the spine

Finucane, Selfe, Mercer, Greenhalgh, Downie, Verhagen, Poole, Henschke, Biossonault, Beniuck



Phase 1-Systematic reviews

CES, malignancy, #,
Infection

Phase 4
Expert
Review

Phase 5
FRAMEWORK
DEVELOPMENT

Phase 2
Consensus
stage

Phase 3
drafting of
framework



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The daily challenge –managing diagnostic uncertainty

- Not cost effective to approach with NO RISK
- Too high a risk leads to missed cases, late diagnosis and possible avoidable death





Summary

- Serious pathology diagnosis in primary care is complex
- Patients rarely present with classic red flags
- They often present their symptoms in the context of other illnesses
- Do not underestimate your clinical judgement....if it doesn't feel right.....

Clinical application

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- Need to assess combinations
- DO NOT investigate with one red flag
- Safety net
- Consider relative risk
- Watchful waiting