Using red flags to identify serious pathology

The evidence
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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.
Incidence

Prevalence

Recurrence

Mortality
Definition of Red Flags

• Red Flags are clinical indicators of possible serious spinal pathology

• They are physical manifestations of underlying significant medical pathology
Common red flags

- 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

- Malignancy
- Fracture
- Infection
- Cauda Equina syndrome
Other pathologies

- Sarcoma
- MND
- Ependymoma
- Myeloma
- Lymphoma
- CLL
• ‘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)
Red flags for back pain
A popular idea that didn’t work and should be removed from guidelines

Martin Underwood director, Warwick Clinical Trials Unit¹. Rachelle 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)
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

Arianna P. Verhagen1 · Aron Downie2,3 · 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.

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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 Reiman²,⁴

‘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
Clinical Commentary

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

Laura Finucane, Susan Greenhalgh and James Selfe

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

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

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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
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

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