SOCIETÀ ITALIANA
G.U.I.D.A.
PER LA GESTIONE UNIFICATA E INTERDISCIPLINARE DEL DOLORE MUSCOLO-SCHELETRICO E DELL'ALGODISTROFIA

Giuseppina Resmini

Update sulla clinica e sulla diagnostica differenziale del dolore muscoloscheletrico: Congruenze ed incongruenze imaging-clinica

Centro Congressi Unione Industriali
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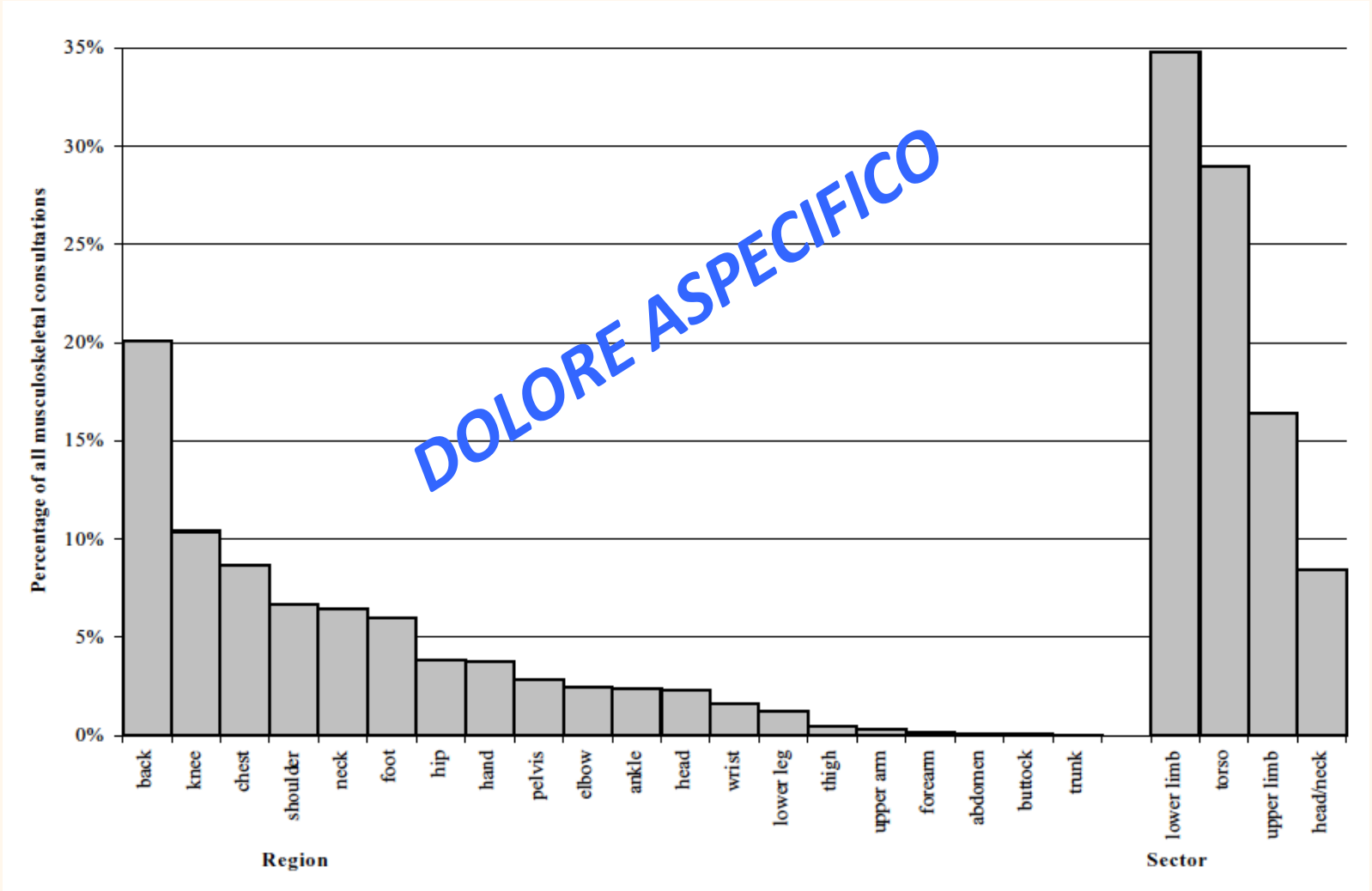
Dolore Muscolocheletrico

I disturbi muscoloscheletrici sono lesioni o dolori del sistema muscoloscheletrico umano, comprese le articolazioni, i legamenti, i muscoli, i nervi, i tendini e le strutture che sostengono gli arti, il collo e la schiena. I disturbi muscoloscheletrici possono derivare da uno sforzo improvviso (ad esempio, sollevare un oggetto pesante), oppure possono derivare dall'eseguire ripetutamente gli stessi movimenti, sforzi ripetuti, o dall'esposizione ripetuta a forza, vibrazioni o postura scomoda

WHO. Musculoskeletal Conditions. World Health Organization. 2020

Prevalenza di sede nel dolore muscoloscheletrico



Jordan et al. BMC Musculoskeletal Disorders 2010, 11:144

Esame Obiettivo

Fondamentale per definire la causa del dolore ed il meccanismo scatenante

Accurata anamnesi

Alterazioni dell'assetto fisiologico del rachide

Dolore e/o limitazione funzionale dei movimenti

Dolore alla palpazione dei processi spinosi, delle articolazioni posteriori, dei legamenti dei muscoli

Attraverso l'integrazione dei sintomi e dei segni Con indagini radiologiche mirate è possibile ipotizzare l'origine del dolore muscoloscheletrico

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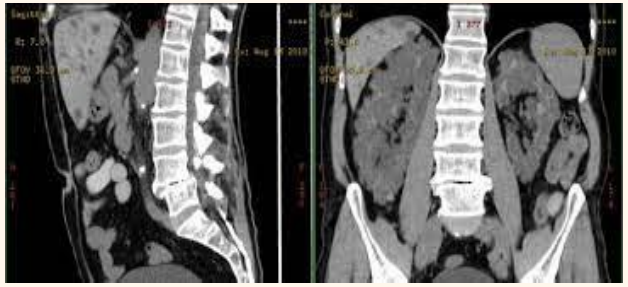
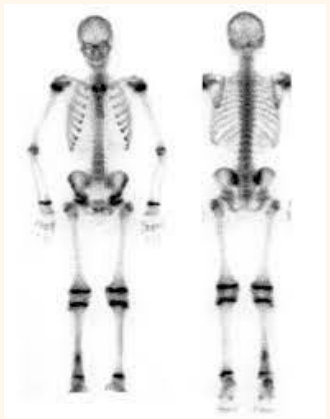
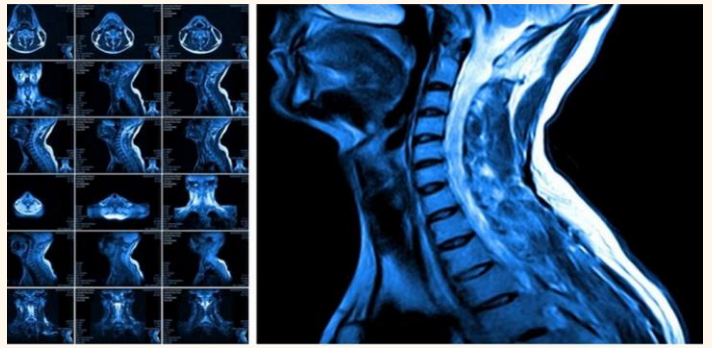
Diagnostica per immagini

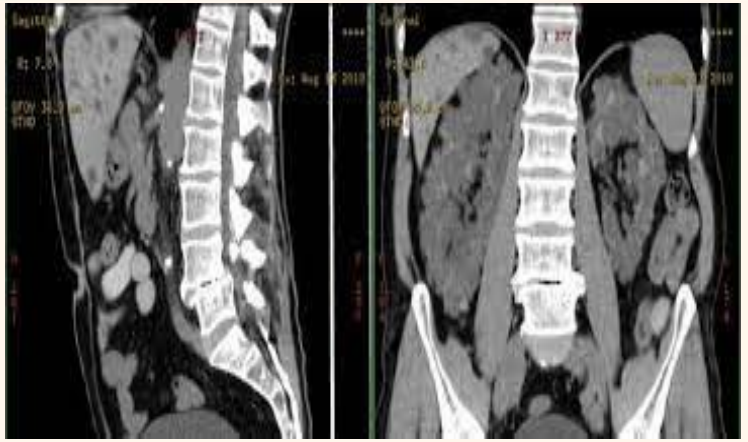


- Rx
- RMN
- TAC
- TAC/PET
- Scintigrafia
- Ecografia



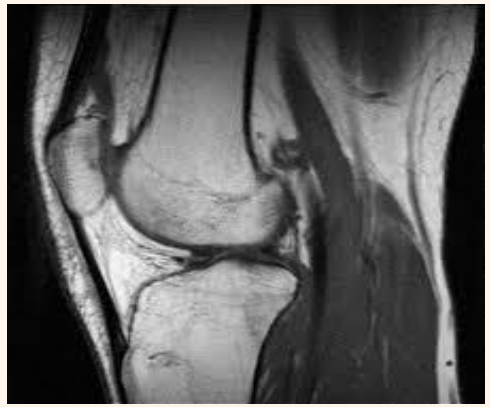
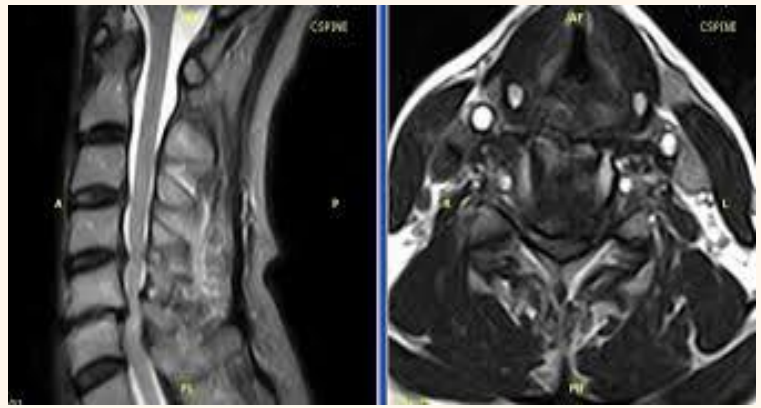






National Health Service: 2014-2019

16% **Richiesta di esami diagnostici di imaging**

Diagnostica per imaging di basso valore

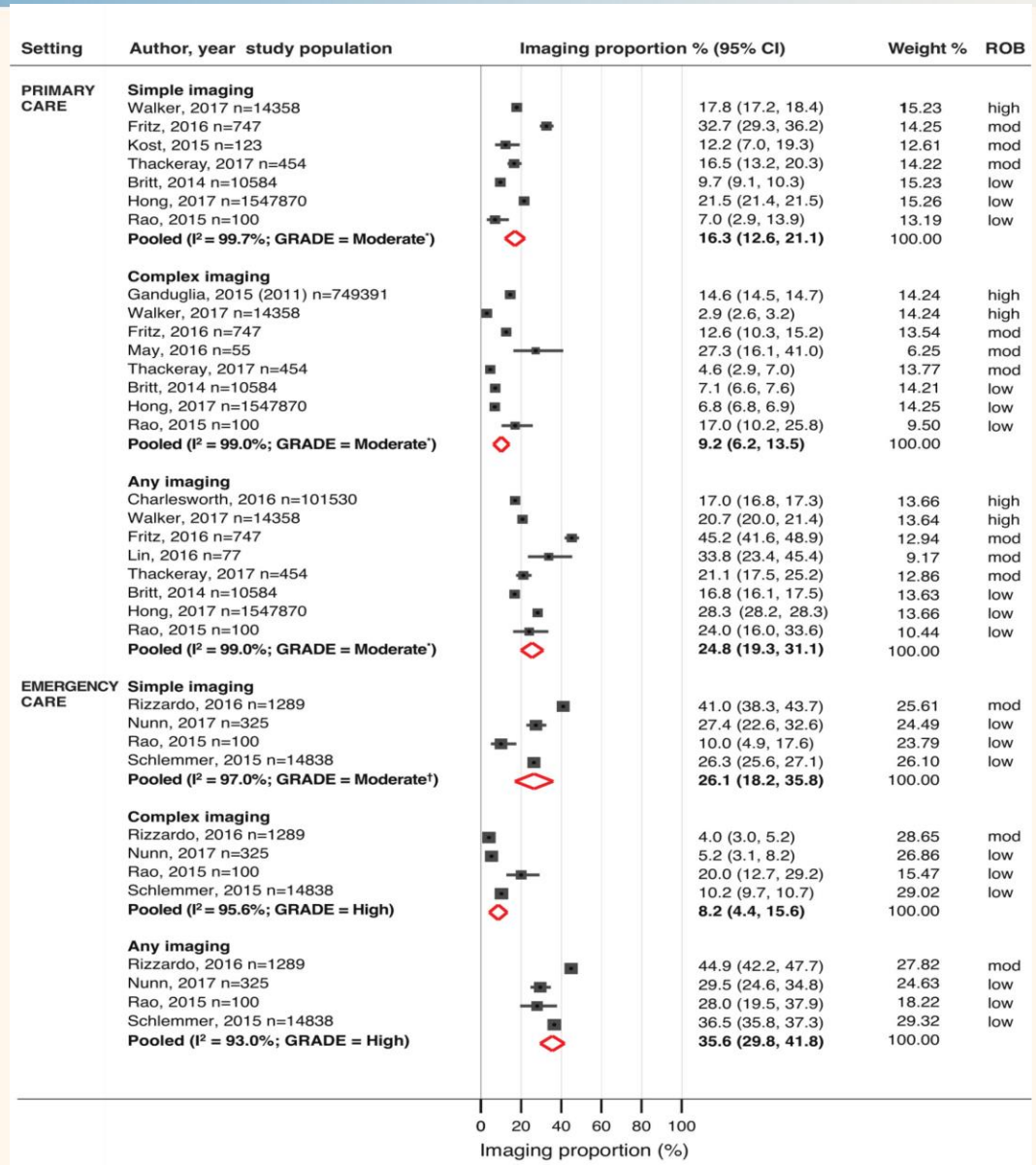
Type of imaging	Reason for examination	Outcome	Suggested practice by included study/ studies
L-spine XR, CT, MRI	Low back pain	Low rate in change of management MRI: 41.3% relevant findings	
Post-op L or C-spine XR	Instrumented single-level degenerative spinal fusions	Does not change treatment of patient	Check with fluoroscopy during surgery
Post-op L-spine XR	Lumbar fusion	0–1% relevant findings	XR if positive physical examination only
Spine XR	Acute neck or back pain	0.4% relevant findings	
Pelvic XR	Sever trauma	No change in management	
CT/MRI pelvis	Pelvic ring fracture	No change in management	
Routine Pelvic XR	Pelvic fracture	No change in management in patients with painless straight leg raise	Among awake, alert patients without spinal or lower limb injury, painless straight leg raise can exclude pelvic fractures
	Trauma	10% change in management	XR if positive physical examination only
Post-op Hip XR	Hip hemiarthroplasty	No change in management	XR if positive physical examination only
	Hip fracture	No change in management	XR if positive physical examination only
MRI Hip	Hip pain	After XR—low impact on treatment	

XR X-ray, *CT* computed tomography, *MRI* magnetic resonance imaging

Kjelle et al. BMC Medical Imaging (2022) 22:73

What are the new findings

- We have moderate quality evidence that about one-quarter of patients who presented to primary care for low back pain were imaged. We have high-quality evidence that about one-third of similar patients who presented to emergency care were imaged.
- The rate of complex imaging per patient increased by 50% from 1995 to 2015.

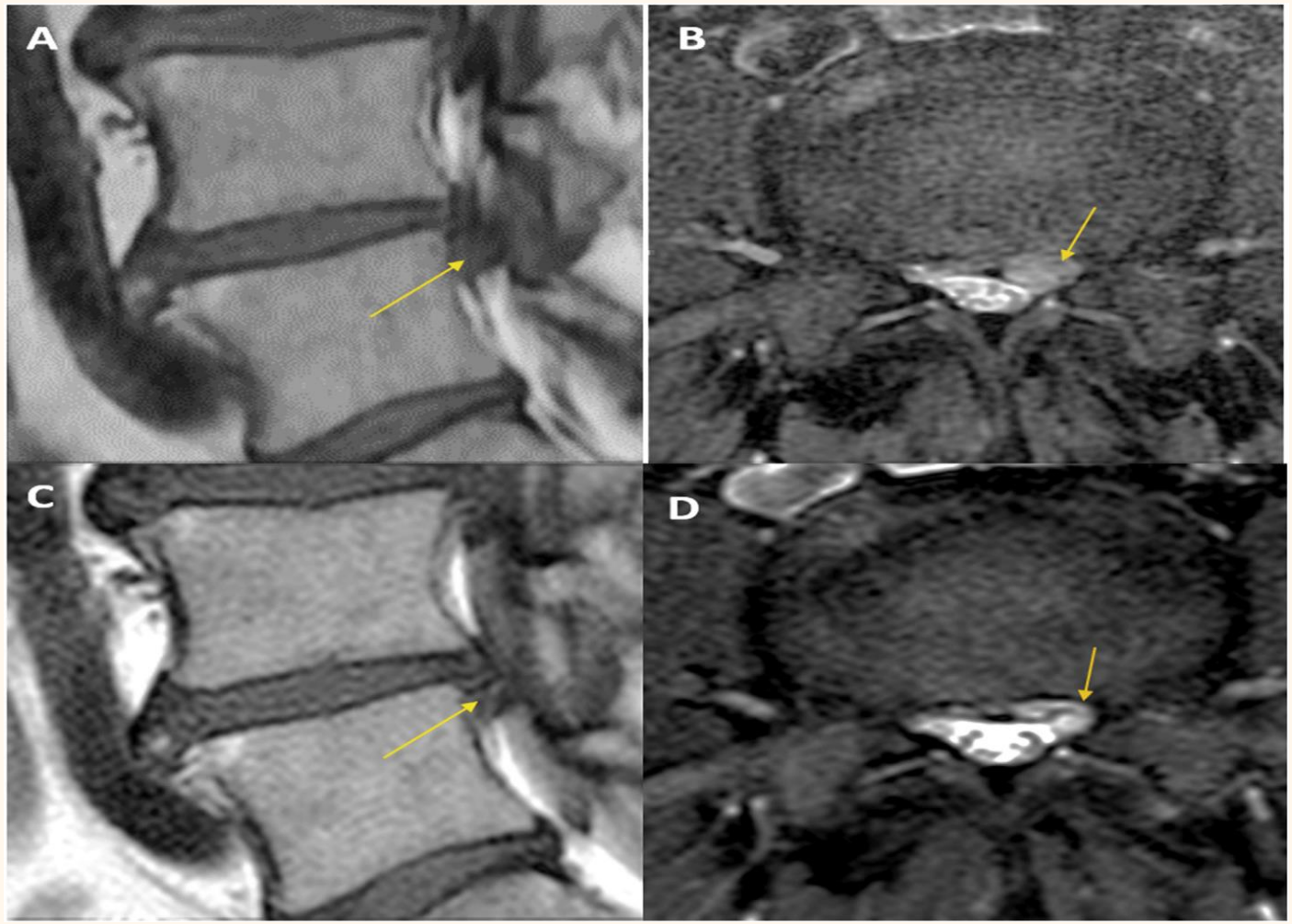


Downie, Aron, et al.." British journal of sports medicine 54.11 (2020): 642-651.

Correlazione tra Low Back Pain e degenerazione discale

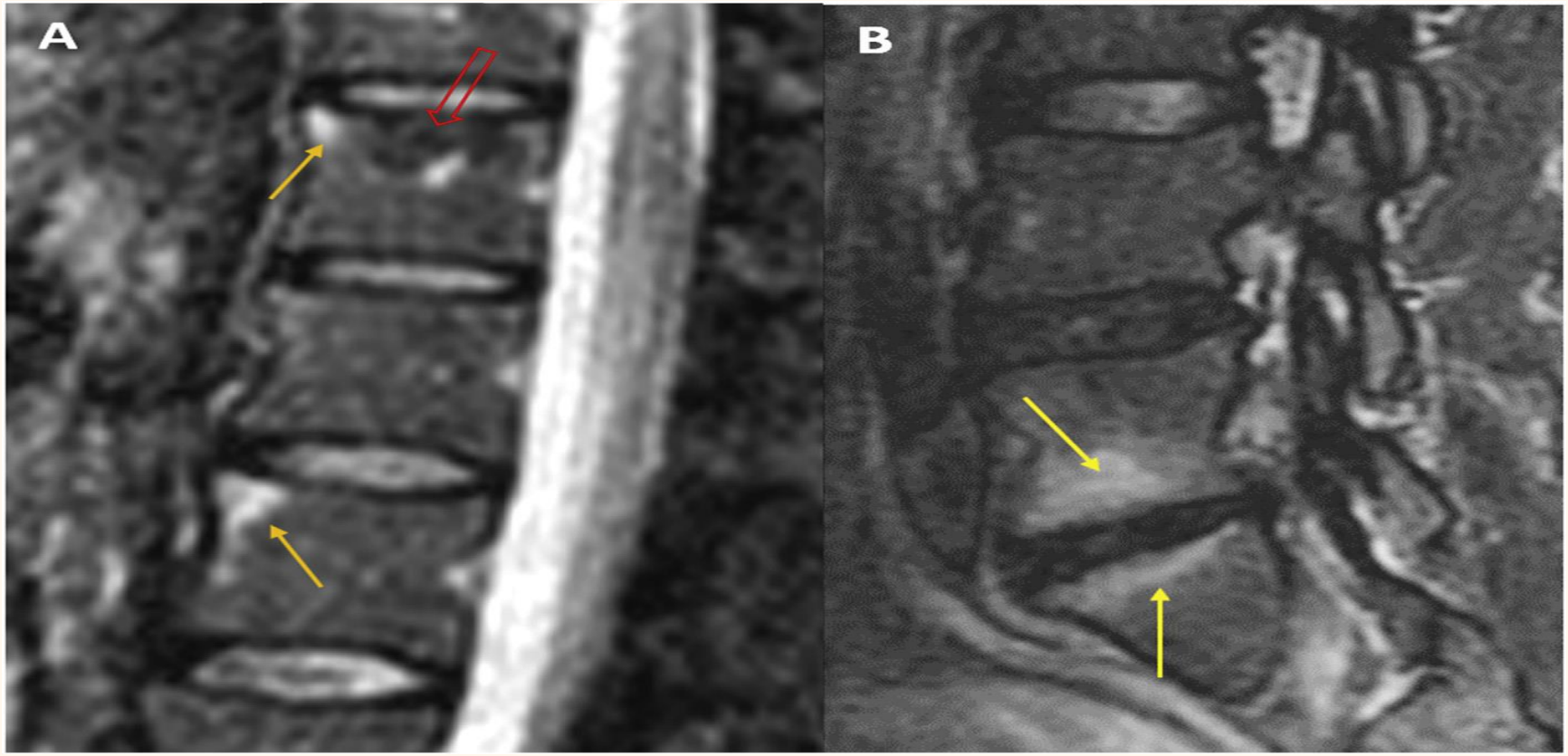
Imaging Finding	Age (yr)						
	20	30	40	50	60	70	80
Disk degeneration	37%	52%	68%	80%	88%	93%	96%
Disk signal loss	17%	33%	54%	73%	86%	94%	97%
Disk height loss	24%	34%	45%	56%	67%	76%	84%
Disk bulge	30%	40%	50%	60%	69%	77%	84%
Disk protrusion	29%	31%	33%	36%	38%	40%	43%
Annular fissure	19%	20%	22%	23%	25%	27%	29%
Facet degeneration	4%	9%	18%	32%	50%	69%	83%
Spondylolisthesis	3%	5%	8%	14%	23%	35%	50%

Brinjikji, Waleed, et al." American Journal of Neuroradiology 36.4 (2015): 811-816



Dopo 4 mesi

Y.X.J. Wa´ng et al. Journal of Orthopaedic Translation (2018) 15, 21e34



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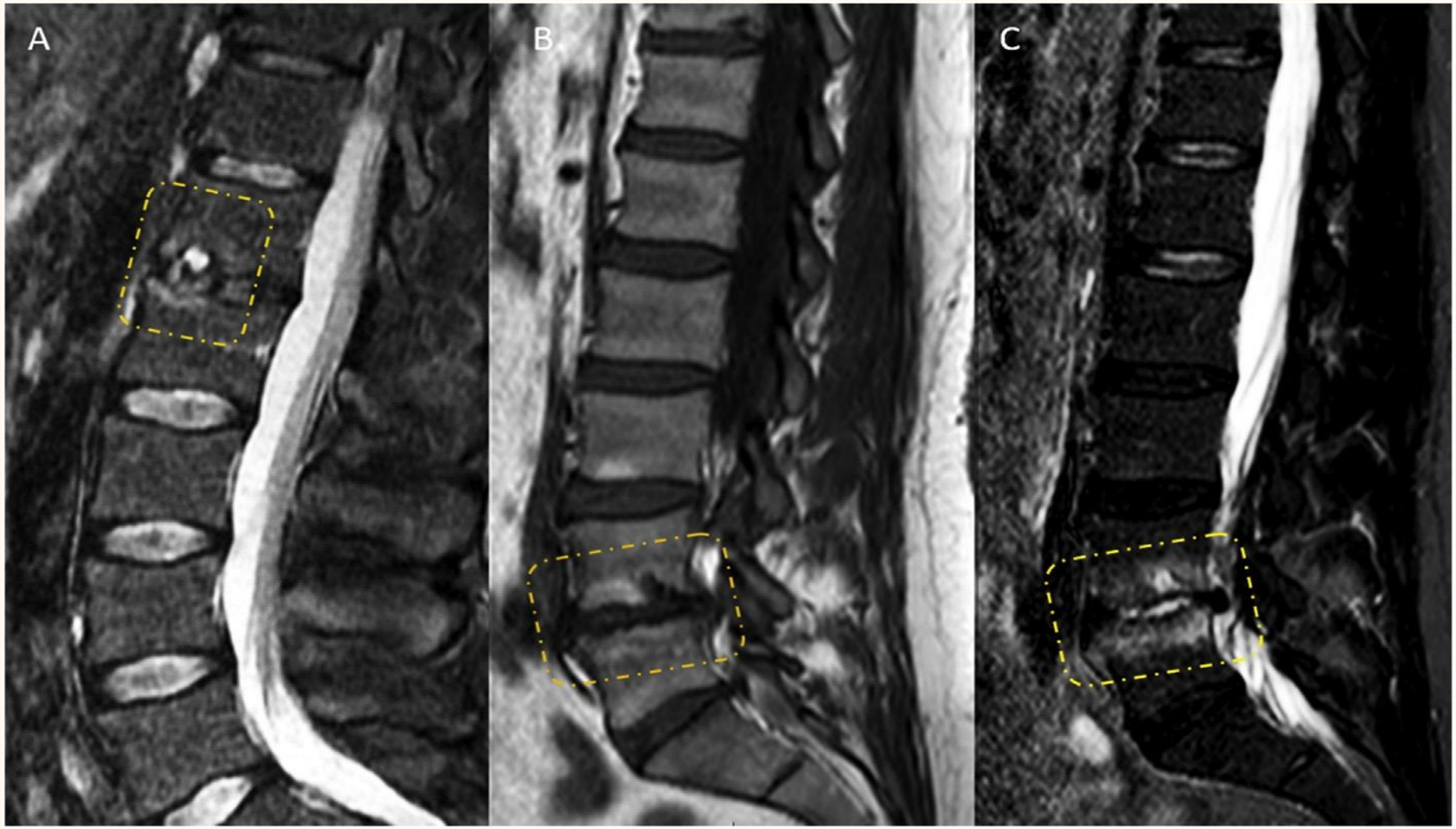

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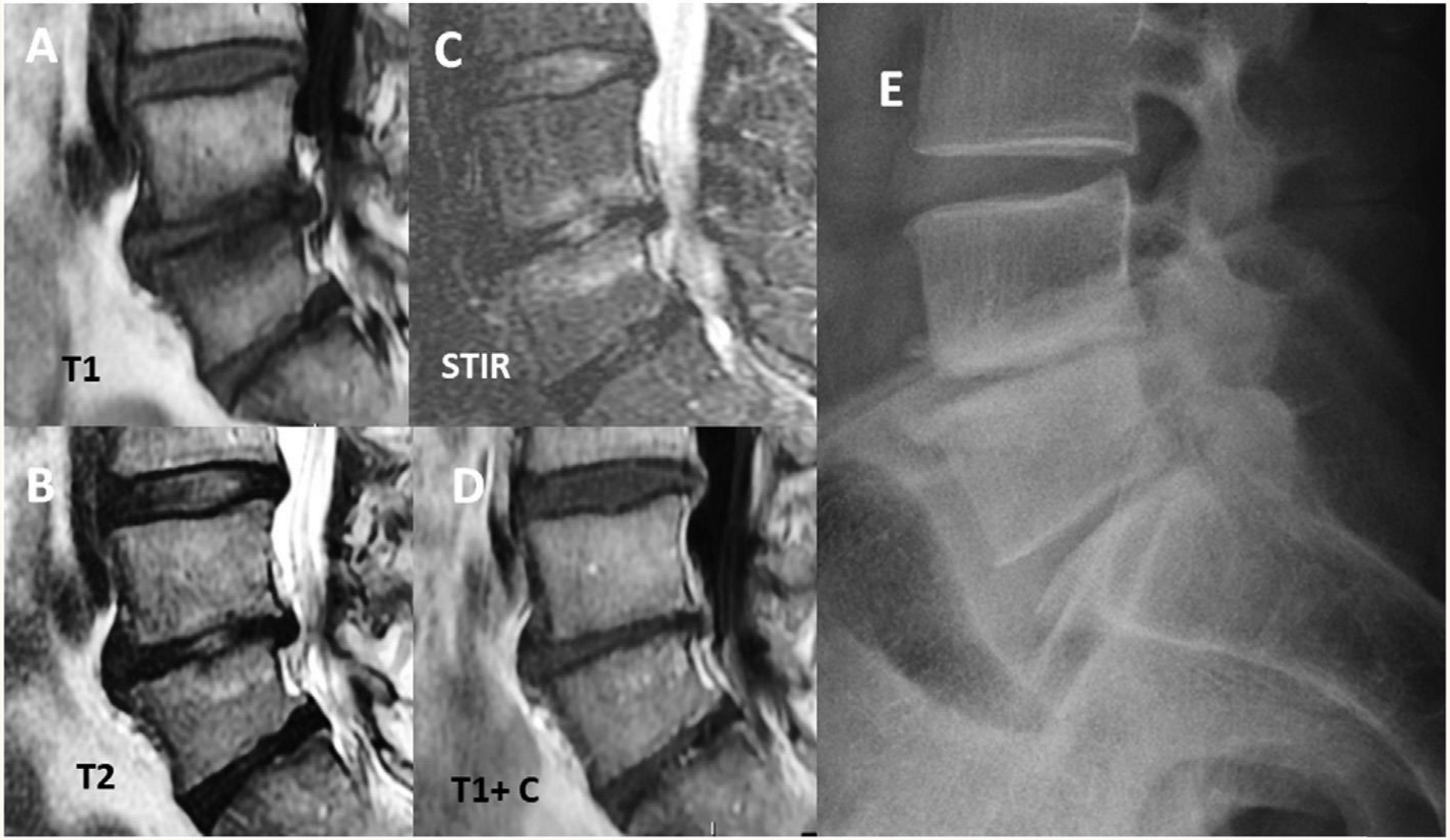


Y.X.J. Wa´ng et al. Journal of Orthopaedic Translation (2018) 15, 21e34

Imaging

Recommendation	Quality of Evidence and Strength of Recommendation
Clinicians should not routinely recommend imaging (x-ray, computed tomography [CT], magnetic resonance imaging [MRI]) for patients with nonspecific or radicular low back pain and an absence of red flags on clinical presentation.	Quality of Evidence: Moderate Strength of Recommendation: Strong
Benefit In general, imaging for low-back pain without indication(s) of serious underlying conditions does not improve clinical outcomes. In addition, not imaging will avoid potential exposure to radiation. **Harm** Some underlying conditions may be missed by not imaging. **Benefits/Harms Assessment** In general, routine imaging for acute/subacute low back pain has been shown to be ineffective in altering the course of treatment in the first six weeks. Harms of imaging include possible radiation exposure as well as potential decreased sense of well-being by the patient. In general, these harms outweigh the benefits for patients with uncomplicated low back pain and the absence of red flags on clinical presentation.	
Relevant Resources: *Chou, 2009 (Systematic Review and Meta-Analysis); Patel, 2016 (Guideline)*	

Review

What does best practice care for musculoskeletal pain look like? Eleven consistent recommendations from high-quality clinical practice guidelines: systematic review

Ivan Lin ,[1] Louise Wiles,[2] Rob Waller,[3] Roger Goucke,[4] Yusuf Nagree,[5,6] Michael Gibberd,[7] Leon Straker ,[8] Chris G Maher,[9] Peter P B O'Sullivan[10]

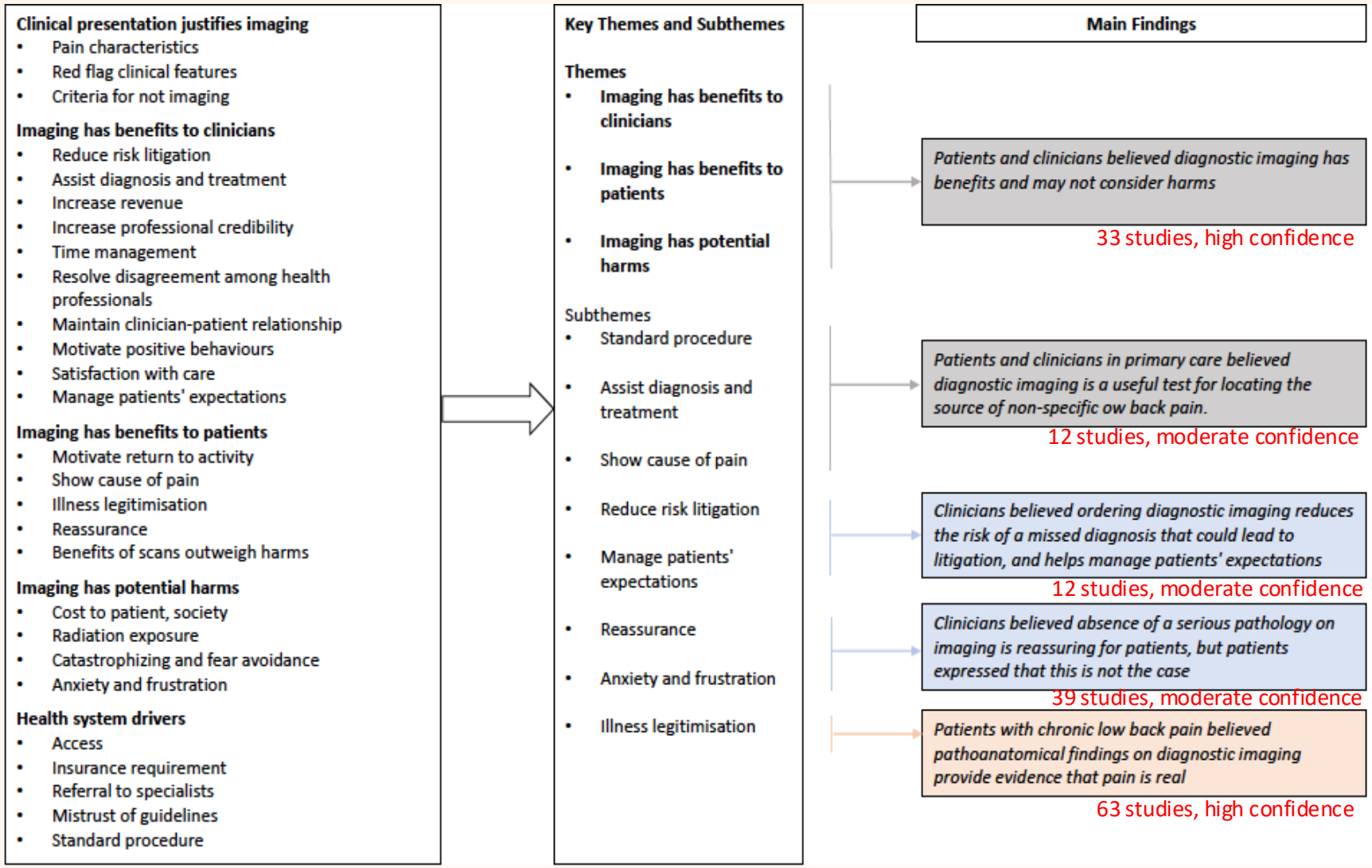
Ricorso eccessivo all'imaging

Nonostante i risultati raccolti negli ultimi decenni dimostrino una scarsa relazione tra i sintomi riportati e i risultati dell'imaging e nonostante le moderne linee guida sconsiglino il ricorso di routine a mezzi diagnostici se non in presenza di reali o presunti danni anatomici, il 25-42% dei pazienti con low back pain viene sottoposto ad imaging

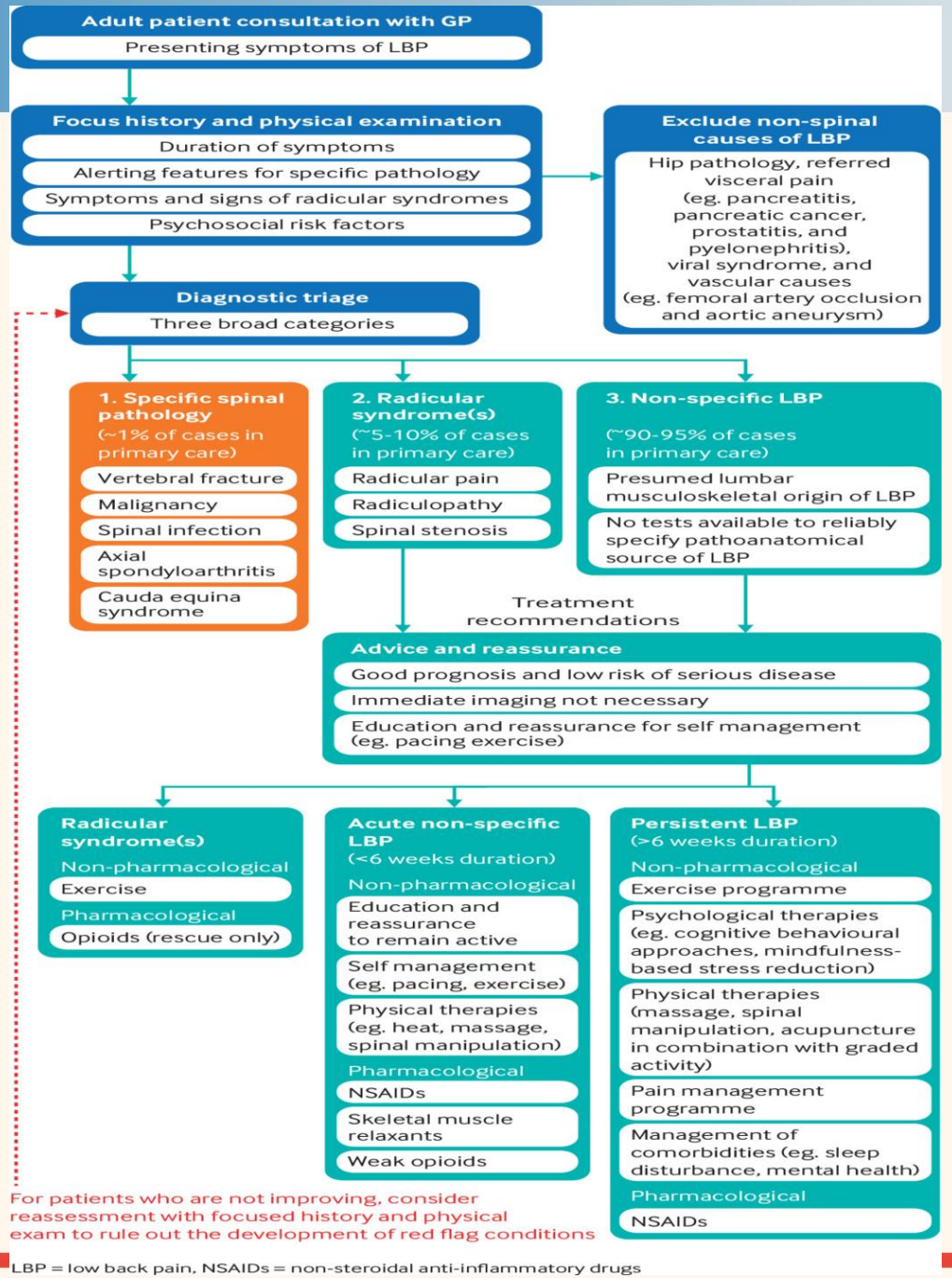
Box 2 Consistent recommendations across musculoskeletal (MSK) pain conditions

1. Care should be patient centred. This includes care that responds to the individual context of the patient, employs effective communication and uses shared decision-making processes.
2. Screen patients to identify those with a higher likelihood of serious pathology/red flag conditions.
3. Assess psychosocial factors.
4. Radiological imaging is discouraged unless:
   i. Serious pathology is suspected.
   ii. There has been an unsatisfactory response to conservative care or unexplained progression of signs and symptoms.
   iii. It is likely to change management.
5. Undertake a physical examination, which could include neurological screening tests, assessment of mobility and/or muscle strength.
6. Patient progress should be evaluated including the use of outcome measures.
7. Provide patients with education/information about their condition and management options.
8. Provide management addressing physical activity and/or exercise.
9. Apply manual therapy only as an adjunct to other evidence-based treatments.
10. Unless specifically indicated (e.g. red flag condition), offer evidence-informed non-surgical care prior to surgery.
11. Facilitate continuation or resumption of work.

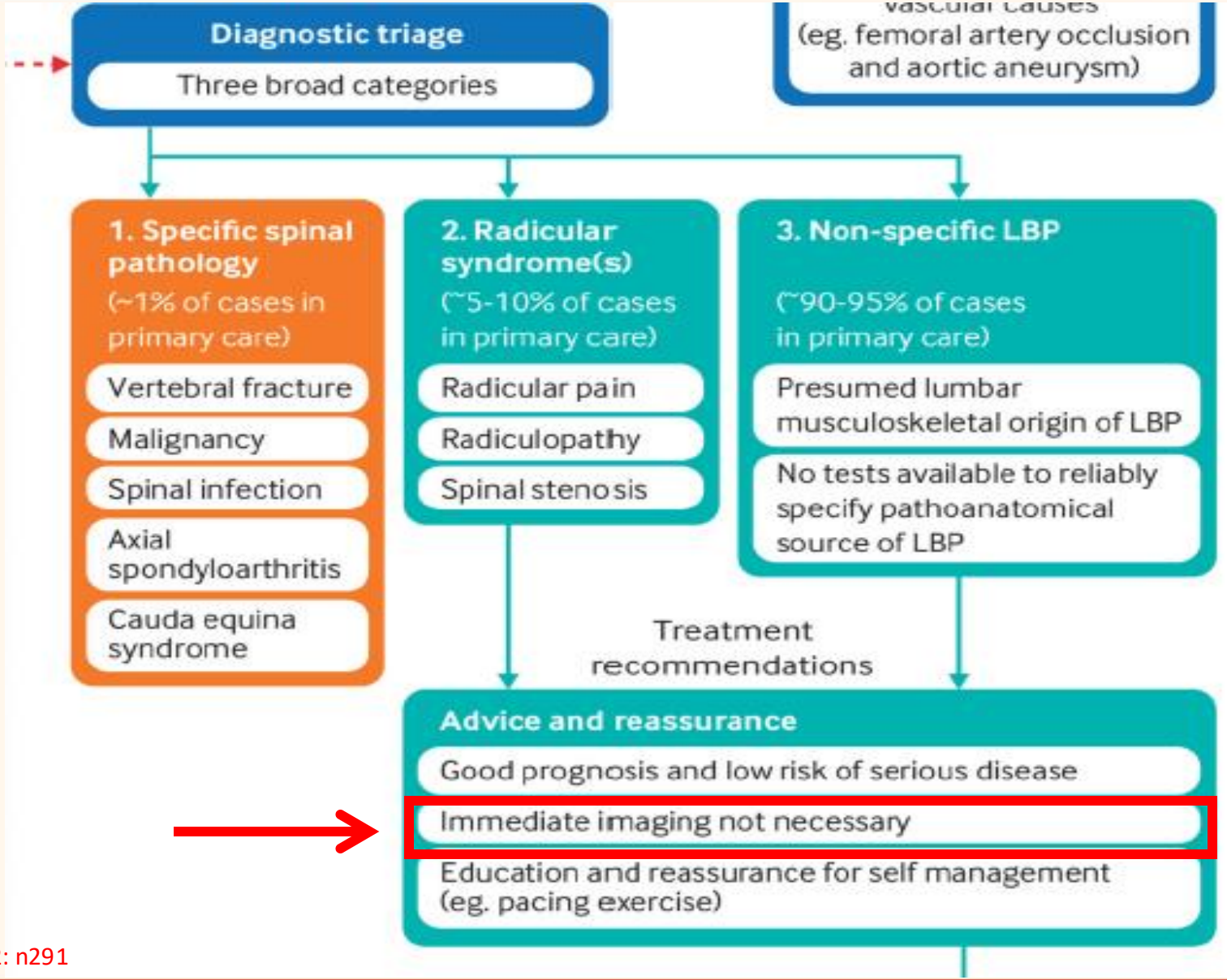
Ivan Lin et al. British Journal Of Sport Medicine 2020; 54:79-86



Sharma S, et al. BMJ Open 2020;10:e037820. doi:10.1136/bmjopen-2020-037820



Amanda M Hall et al. BMJ. 2021; 372: n291



Amanda M Hall et al. BMJ. 2021; 372: n291

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CHANGE

Do not routinely offer imaging for uncomplicated low back pain

Amanda M Hall, [1] Kris Aubrey-Bassler, [1] Bradley Thorne, [1] Chris G Maher[2]

Dichiarazioni "Choosing Wisely" di diversi paesi relative all'evitare l'uso di imaging di routine per la lombalgia

"**Non eseguire di routine l'imaging di pazienti con lombalgia** indipendentem≤ente dalla durata dei sintomi a meno che:

(a) non vi siano motivi clinici per sospettare una grave patologia di base (ad esempio, segnali d'allarme) o

(b) (b) l'imaging sia necessario per la pianificazione e/ o l'esecuzione di un particolare intervento terapeutico basato sull'evidenza su una specifica condizione della colonna vertebrale."—Canadian Spine Society, Choosely Canada

"**Non intraprendere l'imaging per la lombalgia** nei pazienti senza indicazioni di una grave condizione di base."—Australian Rheumatology Association, Choosely Australia

"**Non offrire di routine l'imaging in un ambiente non specialistico** per le persone con lombalgia con o senza sciatica. Prendere in considerazione l'imaging in ambienti di cura specialistici (ad esempio, una clinica o un ospedale di interfaccia muscoloscheletrica) per le persone con lombalgia con o senza sciatica solo se è probabile che il risultato cambi la gestione. "— Royal College of Physicians, Chooseing Wisely UK

CHANGE

Do not routinely offer imaging for uncomplicated low back pain

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Why isn't imaging needed?

Imaging (eg, x-rays, CTs or MRI scans) doesn't usually **help find the cause of pain.**

The **treatment and speed of recovery** for most cases of back pain **is the same whether imaging is used or not.**

WON'T IMAGING SHOW WHAT IS CAUSING MY LOW BACK PAIN?

No - the underlying cause of back pain **cannot** usually be seen on imaging.

Imaging can help diagnose serious causes of low back pain - but, these are very rare and your GP will check for signs of them.

I KNOW OTHER PEOPLE WHO FOUND 'CHANGES' ON IMAGING OF THEIR BACK – WHAT IF I HAVE THESE 'CHANGES' TOO?

Many 'changes' can be seen on imaging, but it is unknown if they are causing your pain.

Most of the 'changes' seen on imaging are normal and more common the older you get.

Even people **without back pain** commonly have imaging 'changes'. For example, 6 out of 10 middle aged people without back pain have changes on imaging such as disc bulges or degeneration.

WHY SHOULDN'T I GET IMAGING 'JUST IN CASE'?

Unnecessary imaging has some **risks:**

- **Radiation** exposure (for x-ray and CT) can **increase the risk of cancer.** Less radiation is better
- It can **cost you money** and is **time consuming**
- **Changes on imaging are often seen and may cause stress, anxiety and worry,** even though they are usually unimportant
- Imaging has been associated with **worse patient outcomes** and an increase in **unnecessary surgery**

Conclusioni

L'utilizzo degli esami di imaging **in condizioni dolorose aspecifiche non è consigliato**, sia per l'elevato costo che per la scarsa corrispondenza tra referto diagnostico e dolore.

L'imaging non fa la diagnosi.

Grazie per l'attenzione