RAPID RESEARCH

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April 2022

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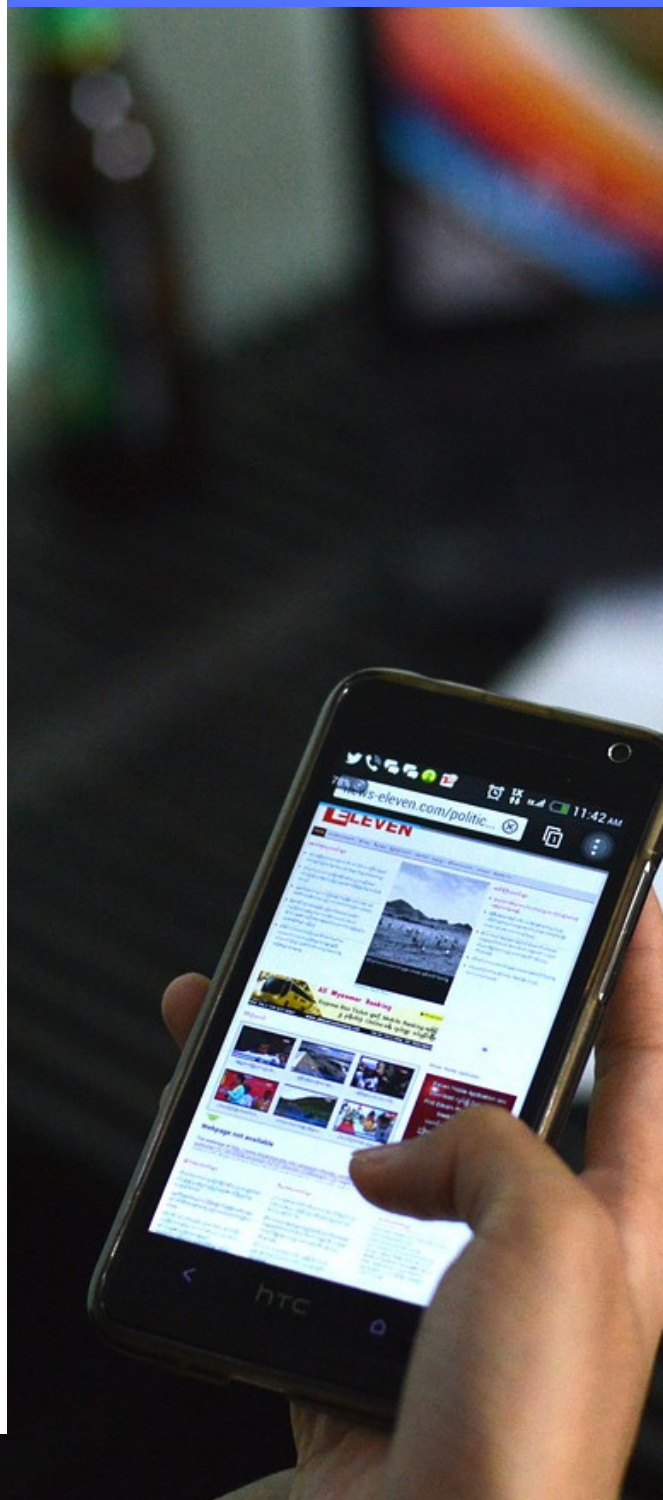
Compression Fractures

- Compression Fractures: Diagnosis & Management
- Conservative Therapy vs. Vertebro- & Kyphoplasty
- Acute Compression Fracture: Pain Control



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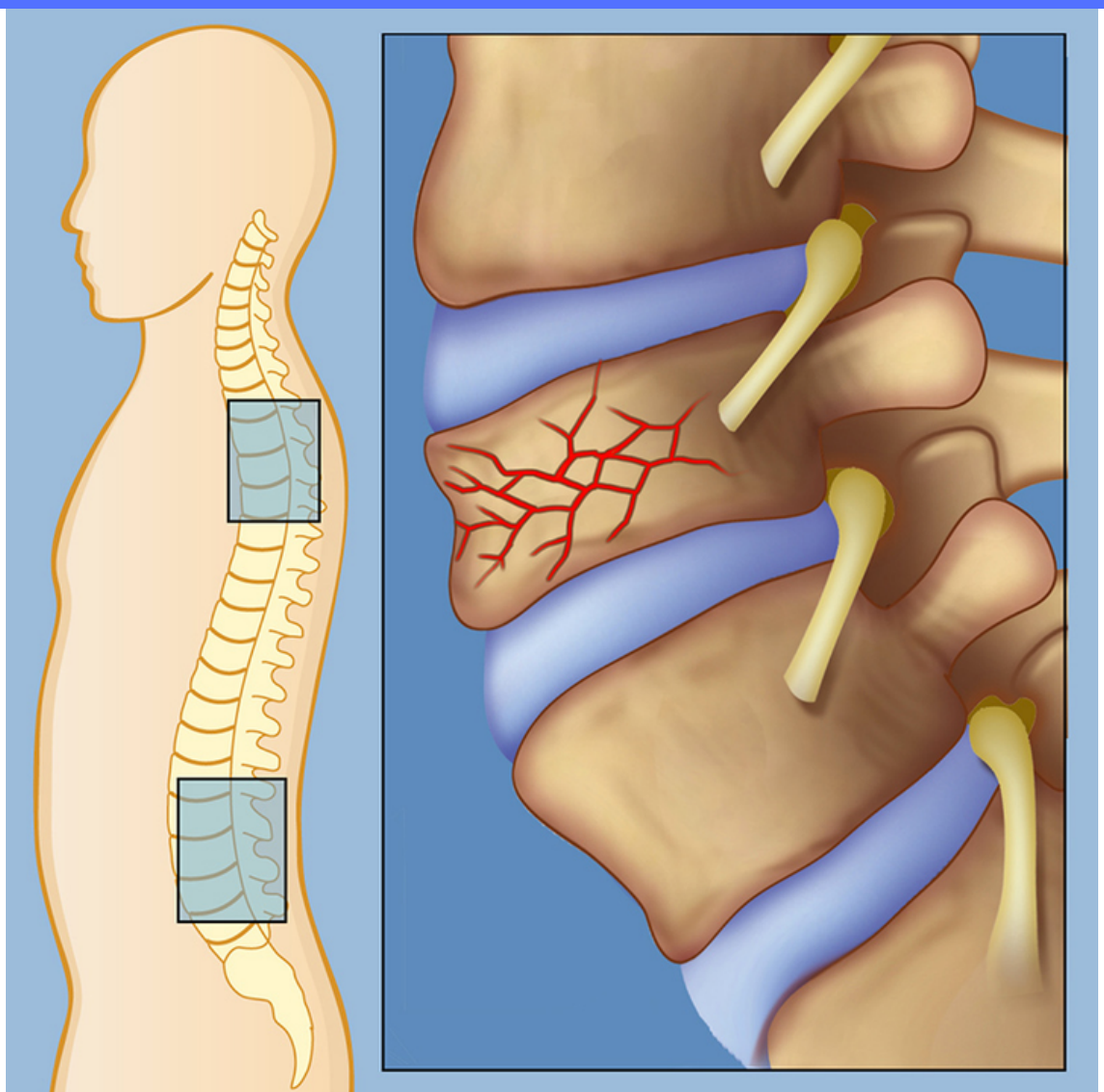
COMPRESSION FRACTURES: DIAGNOSIS & MANAGEMENT

Click for Full Text (McCarthy & Davis 2016)

This narrative review highlights vertebral compression fracture risks, rates, diagnosis, and management.



KEY FINDINGS

Risk Factors:

- Osteoporosis, >50, a history of VCFs or falls, Female, Inactivity.....

Clinical Presentation:

- ~ 66% are asymptomatic
- Common symptoms (Acute back pain, fracture on x-ray, kyphosis & midline spine tenderness)

Evaluation:

- Neurologic assessment.
- Lateral radiography of the vertebral column
- Most commonly anterior wedge fracture
- Osteoporosis should be assessed for if not diagnosed (DEXA scan)

Treatment:

- Goals (Pain relief, restore function, prevent future fractures)
- Conservative care (50% chance of good pain reduction at 3 mo)
- Percutaneous vertebral augmentation (vertebroplasty or kyphoplasty)

MAIN TAKEAWAYS

Clinical Recommendations:

- A trial of conservative therapy should be offered to patients with vertebral compression fractures. (Level C Evidence)

- Percutaneous vertebral augmentation can be considered in patients who have inadequate pain relief with nonsurgical care or when persistent pain substantially affects quality of life. (Level C Evidence)

- Patients with vertebral compression fractures should be evaluated for osteoporosis, and preventive therapy should be initiated if necessary. (Level C Evidence)

CONSERVATIVE THERAPY VS. VERTEBRO- & KYPHOPLASTY

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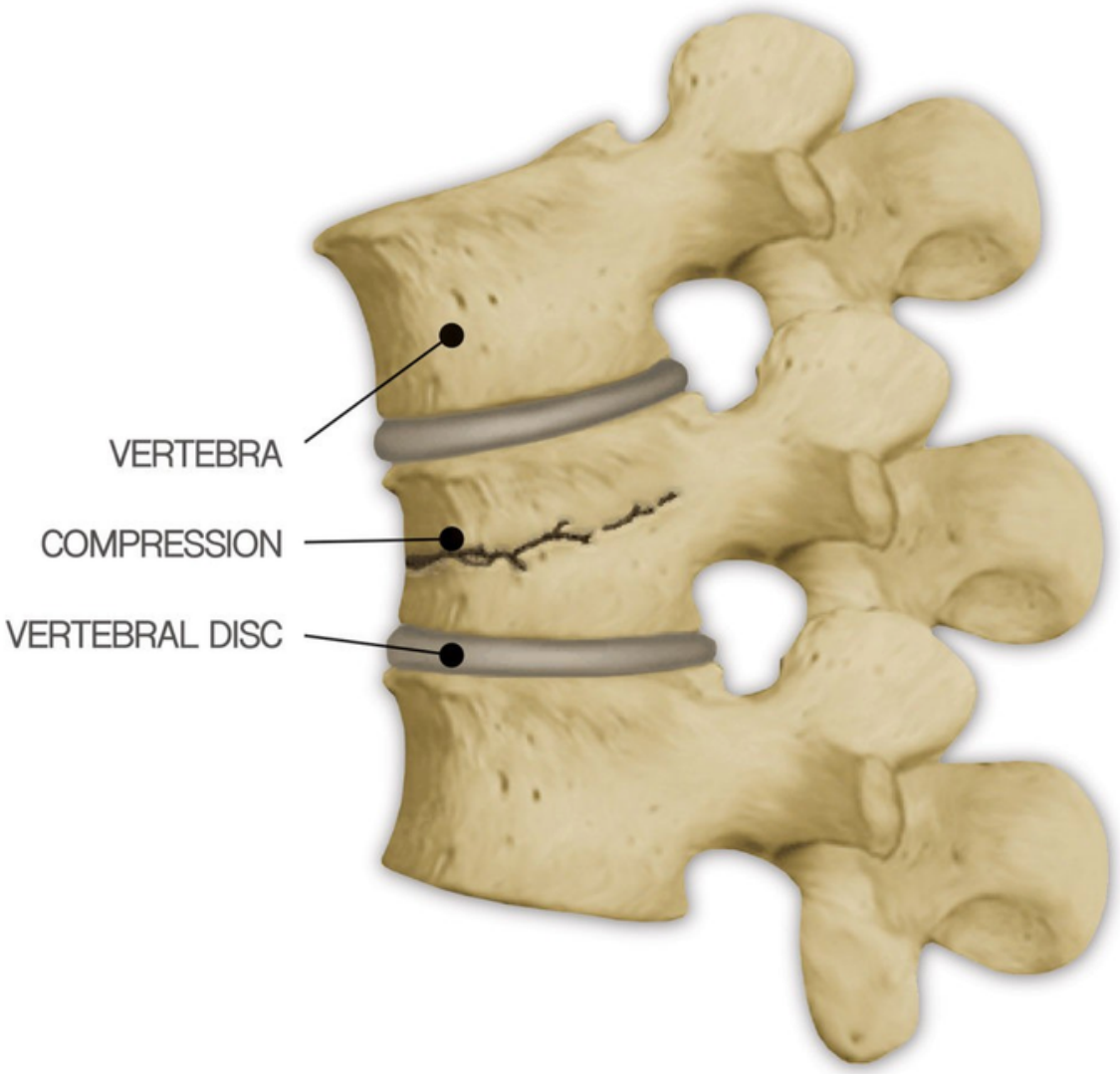
Click for Full Text (Yuan et al. 2016

This meta-analysis compared the outcomes of vertebroplasty and kyphoplasty with conservative treatment in patients with osteoporotic vertebral compression fractures (VCFs).



KEY FINDINGS

10 RCTs included. 1254 patients; (626 treatment; 628 control)
Main Outcomes:
Pain, Function, & Quality of Life

Vertebroplasty/Kyphoplasty:

- Greater pain relief
- Significant improvement in daily function vs. conservative
- Associated with higher quality of life.

Subgroup analysis:
Vertebroplasty provided greater pain relief vs. conservative treatment
Kyphoplasty did not provide greater pain relief vs. conservative care.

MAIN TAKEAWAYS

Overall the procedures **reduce pain and improve function and quality of life** as compared with conservative treatment.

Pain relief of kyphoplasty was similar, but vertebroplasty was greater vs. conservative management.

Both procedures improve functional outcomes to a greater degree vs. conservative treatment.

No difference in quality of life improvement between vertebroplasty and conservative treatment.

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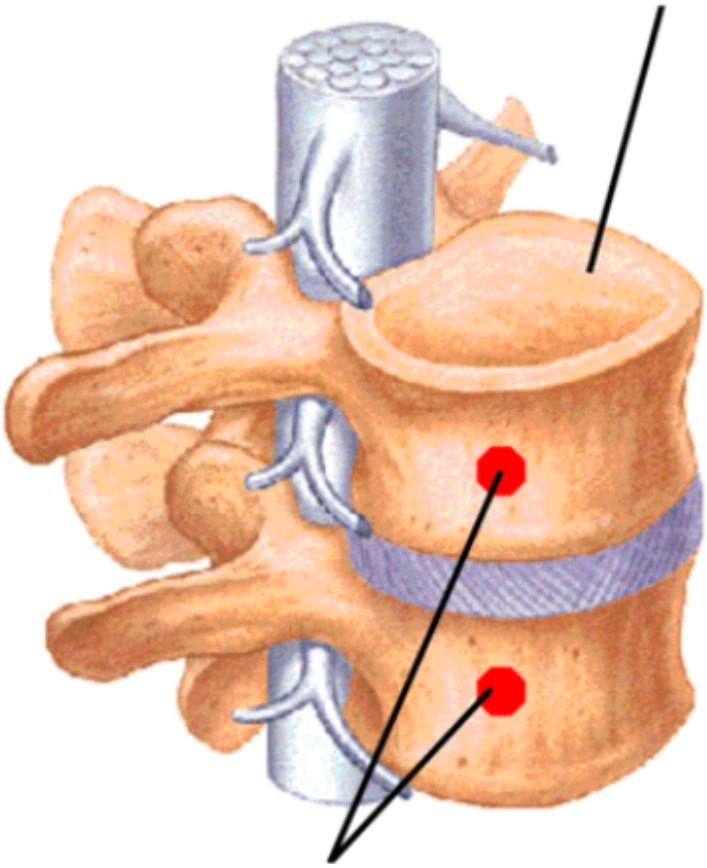
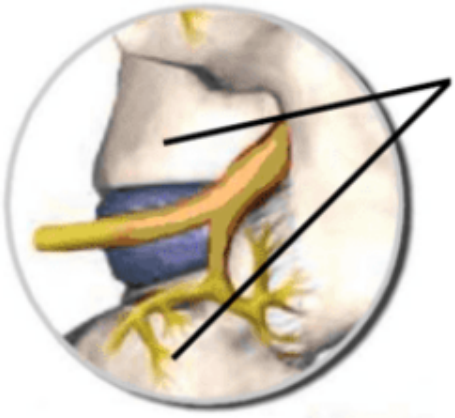
ACUTE COMPRESSION FRACTURE: PAIN CONTROL

Click for Full Text (Park et al. 2021)

Current options for acute pain control of VCF include hard brace, vertebroplasty, early surgery, and analgesic injection. This study assessed gray ramus communicans nerve block (GRNB) to control pain with vertebral compression fractures.



The gray ramus communications nerve is located at the mid juncture of the vertebral body.



Injection is performed above and below the level of painful disc

KEY FINDINGS

63 patients with fracture at T10-L5 spine

Grey Ramus Nerve Block (GRNB) done within 1 week of the trauma.

Follow-up on days 3, 14, 30, 90, and 180

Main Outcomes:

Pain, Oswestry Low Back Disability (ODI) & Roland-Morris Disability Questionnaires (RDQ).

Pain:

During movement: improved at 3 months post-procedure

At rest: improved at 3 days.

Quality of life index:

Improved at post-operative 6 months.

Lower Bone Mineral Density was the only risk that affected treatment failure.

MAIN TAKEAWAYS

The GRNB could relieve acute pain and improve quality of life.

The motion pain decreased rapidly for three days and was maintained for 90 days after the procedure.

Decreased BMD is a risk factor for GRNB treatment failure.

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