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Bisphosphonates for joint pain in horses – arthritis and navicular syndrome

What Bisphosphonates are:

- Drugs that prevent the breakdown of bone, slowing osteoclasts, cells responsible for dissolving bone
- Used in the treatment of osteoporosis, and raised blood calcium levels

Indication for use:

- Tiludronate and clodronate are approved for treating navicular syndrome
- They are often used off-label for osteoarthritis in other joints horses, often the distal tarsal (hock) joint
- They are administered by an intramuscular injection

Action

- In addition to slowing bone breakdown, they may reduce inflammation and give some pain relief
- They inhibit bone resorption, but impact on equine bone remodelling is unclear
- No significant changes in bone structure or remodelling in healthy horses after standard dosing, suggesting clinical benefit may be due to pain modulation rather than bone effects
- The pain modulation may involve non-bone pathways

Effectiveness:

- Navicular syndrome:
- Research suggests that bisphosphonates can significantly reduce lameness and improve activity in about 50% of horses treated with navicular syndrome, with effects lasting up to 6 months
- Improvement is more pronounced in recent-onset cases
- Osteoarthritis in other joints:
- There is little evidence to suggest their use over steroid injections or nonsteroidal anti-inflammatories (eg. Bute, Equioxx, Danilon), with studies showing modest, short term improvements

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Safety and Risks:

- There are some concerns about using off-label medication in young or exercising horses, with a lack of long term safety data as bisphosphonates may impair normal bone growth, adaptation, or healing, with unknown long term risks
- Renal injury is a potential but rare complication

Conclusion:

- Bisphosphonates are effective for reducing lameness in many horses with navicular syndrome, but not all respond
- Current research does not support bisphosphates as an effective or superior treatment for arthritis in horses
- Further research is required to understand their benefits and any potential risks

References – Bisphosphonates

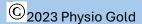
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