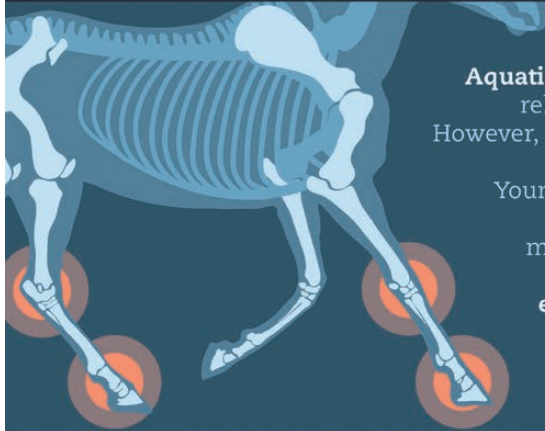


The effect of aquatic exercise on bone development in young horses.

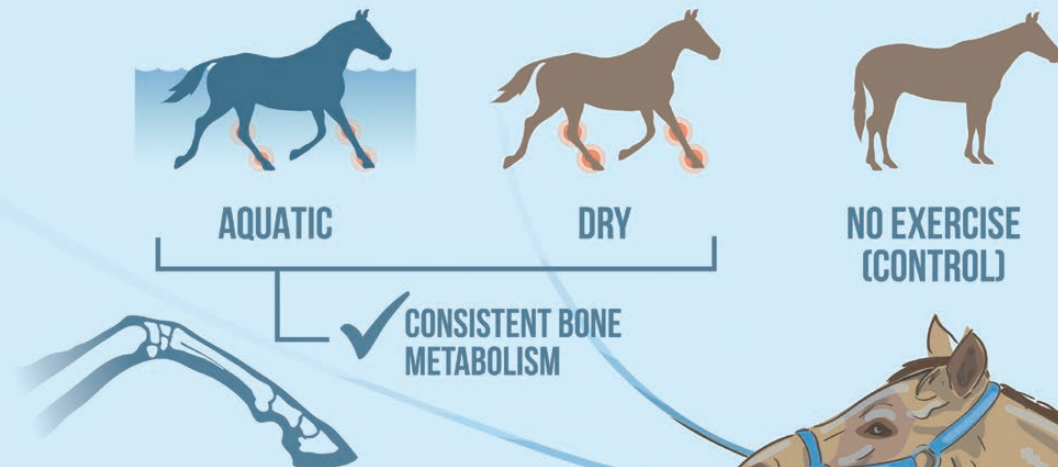
ASAS EDITORIAL



Aquatic exercise for horses is growing in popularity, primarily for rehabilitation after injury because it alleviates stress on joints. However, its effects on young, healthy horses are not well understood.

Young horses are often enrolled in exercise programs to improve their future performance. Early stimulation of the musculoskeletal system during this critical growth period can improve bone and cartilage development. **While aquatic exercise is increasingly being used in such programs, there is some concern that the reduced loading forces on joints due to buoyancy could compromise proper bone and cartilage development.**

To determine the effects on bone and cartilage metabolism for horses transitioning to an advanced workload, 30 quarter horse yearlings were randomly assigned to three exercise treatments:



Early forced exercise, whether aquatic or dry, supports more consistent bone metabolism necessary for uniform growth and bone development, and **there were no negative effects of buoyancy on cartilage metabolism** in yearlings transitioned from aquatic exercise.

Future research is needed to explore the effects of aquatic conditioning on other aspects of equine health, such as heart rate, respiration rate, and musculature.

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INFOGRAPHIC

Aquatic exercise and equine joint and bone metabolism

Performance horses often place a substantial amount of stress and strain on their joints leading to inflammation and longterm cartilage damage. Across all riding disciplines, 57% of owners report their horse has a joint condition with nearly all of the poll respondents (90%) treating the perceived ailment with supplements (Swirsley et al., 2017). Recovery from tendon, ligament and joint injury is a lengthy process with many owners exploring options for accelerating healing rates. Because speed, duration and time are manageable features, conventional and aqua treadmills are popular rehabilitative aids for horses (Nankervis et al., 2017). The impact of treadmills on joint physiology in immature horses remains poorly understood. A recent study examined synovial fluid isolated from the knee for evidence of inflammation and cartilage turnover in response to a conditioning and training program (Silvers et al., 2020). Both

mechanical devices provide benefits over sedentary controls that are discussed by the authors.

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