ARTHRAMIDVET®

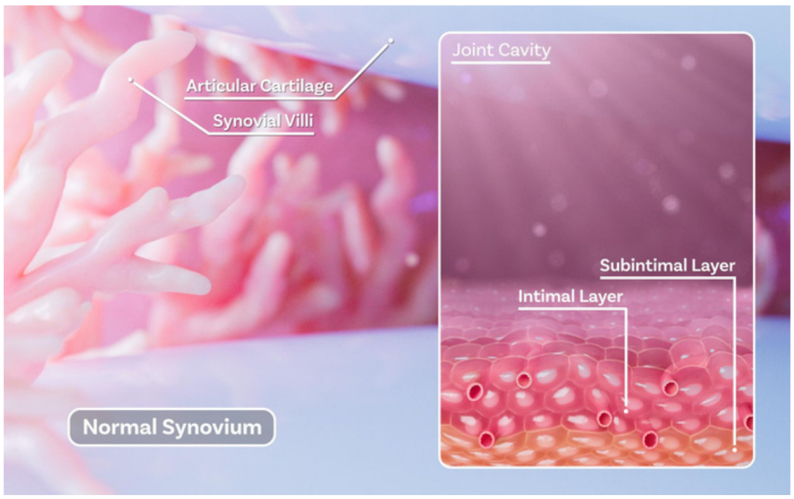
REINFORCING THE FOUNDATION

The synovium plays a vital role in maintaining joint health and function

In the United States, osteoarthritis (OA) is estimated to impact nearly 40% of all dogs[1]. While commonly associated with older dogs, research indicates 20% of dogs as young as one year old can suffer from this debilitating disease[2]. While damage to the articular cartilage is a classic indicator of advanced OA, synovitis is becoming more widely recognized as the key driver for the pain and inflammation associated with OA[3].

The synovial membrane is responsible for numerous functions, including promoting homeostasis of the joint capsule, joint capsule stability, synovial fluid production, composition, and clean up. Properly balanced synovial fluid, created by healthy synoviocytes, provides lubrication and functions normally within the joint. Synoviocytes affected by inflammation further diminishes the integrity and quality of the fluid.[3]

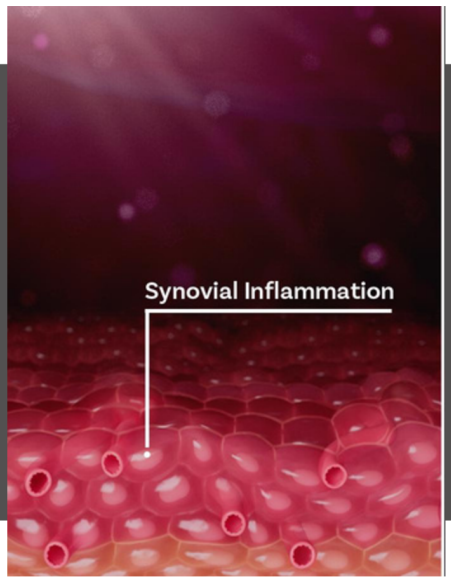
When the composition of synovial fluid is balanced correctly, the joint is properly lubricated and can function normally.



If the cells that produce synovial fluid (synoviocytes) become affected by inflammation, the integrity and quality of the synovial fluid is diminished.

Synovitis, a cycle worth stopping

Synovial inflammation (synovitis) causes synovial fluid to become less viscous and of poor quality. Inflammatory mediators, when present in the synovial fluid, result in a chronic state of synovitis and capsulitis. If left untreated, this will damage the articular cartilage and progress to irreversible OA over time. Synovitis is widely recognized as the primary source of the pain and inflammation of OA.[3]



Restoring Synovial Health

Tissue Response

After intra-articular injection, ArthramidVet® adheres to the synovial lining, allowing the synovial tissue to grow into and through the hydrogel. Because macrophages are unable to phagocytose ArthramidVet®, the hydrogel persists in the synovial membrane.

Cellular Infiltration & Scaffolding

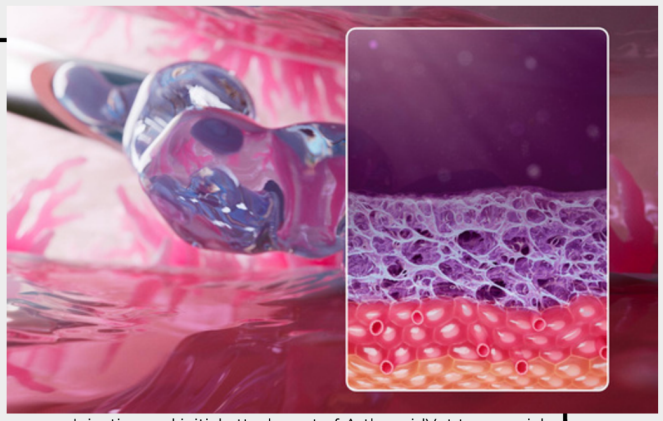
Through an exchange of electrolytes and proteins, a bio-scaffold of healthy synoviocytes and connective tissues is formed, leading to a reformed layer of healthy synovial tissue.

A healthy synovial membrane provides benefits to the structure and function of the joint. In many cases, improvements in joint capsule stability, synovial fluid composition, and slowing of the OA progression can be observed in response to ArthramidVet® injection. A healthy synovium provides lubrication, nourishment and immune cells that protect the joint against infection, remove inflammatory mediators, and re-establish joint function.

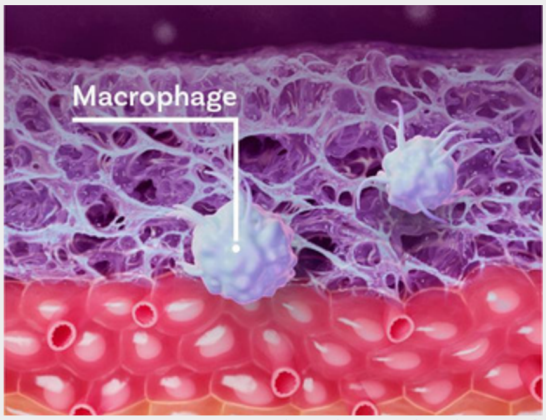
Lasting, structural support

Four weeks after the injection, ArthramidVet® is fully integrated into the synovium, providing long-lasting restorative benefit to the synovial membrane. Restoration of synovial health by ArthramidVet®, reduces pain and inflammation, which helps re-establish joint function and homeostasis.

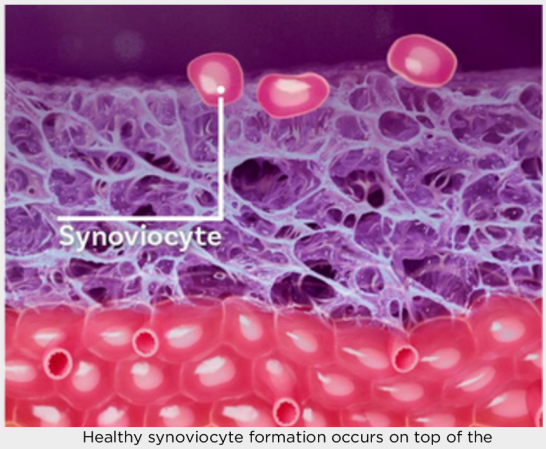
A healthy joint starts with a healthy synovium



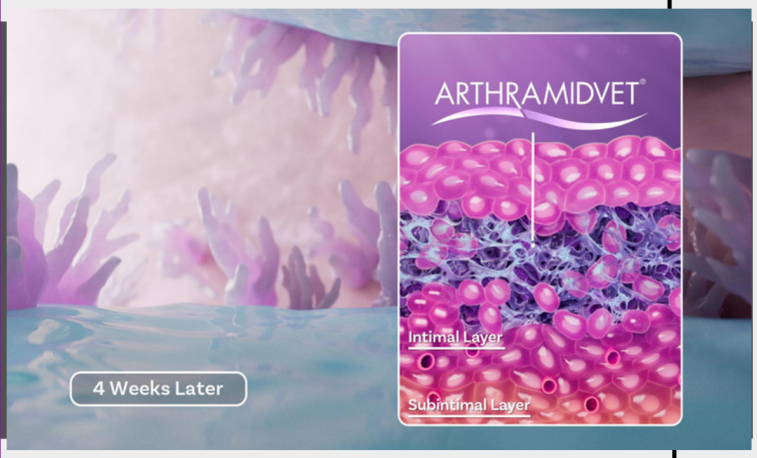
Injection and initial attachment of ArthramidVet to synovial membrane



Synovial tissue response to ArthramidVet signaling the start of the integration and scaffodling process



Healthy synoviocyte formation occurs on top of the ArthramidVet scaffolding, restoring the lining of the synovium.



1.Enomoto, M., De Castro, N., Hash, J., Thomson, A., Nakanishi-Hester, A., Perry, E., Aker, S., Haupt, E., Opperman, L., Roe, S., Cole, T., Thompson, N. A., Innes, J. F., & Lascelles, B. D. X. (2024). Prevalence of radiographic appendicular osteoarthritis and associated clinical signs in young dogs. Scientific Reports, 14(1). https://doi.org/10.1038/s41598-024-52324-9
2.Johnston S. A. (1997). Osteoarthritis. Joint anatomy, physiology, and pathobiology. The Veterinary clinics of North America. Small animal practice, 27(4), 699–723. https://doi.org/10.1016/s0195-5616(97)50076-3
3.van Weeren, P. R., & de Grauw, J. C. (2010). Pain in osteoarthritis. The Veterinary clinics of North America. Equine practice, 26(3), 619–642. https://doi.org/10.1016/j.cveq.2010.07.007
4.Christensen, L., Camitz, L., Illigen, K. E., Hansen, M., Sarvaa, R., & Conaghan, P. G. (2016). Synovial incorporation of polyacrylamide hydrogel after injection into normal and osteoarthritic animal joints. Osteoarthritis and cartilage, 24(11), 1999–2002. https://doi.org/10.1016/j.joca.2016.07.007

www.OAEd.pet
www.Arthramid.com
OAED@conturavet.com

CVUS-CA-2407104