

NEOCHONDRO

Intraarticular injection 60 mg

Durability: Resistance to Deformation*

Durability is defined as the ability of a material to resist deformation (force) and to return to its original state following deformation. Materials that are more durable are more resistant to deformation, and last longer. In synovial fluid, naturally occurring HA changes its macromolecular structure during exposure to force (shear stress loading), such as walking or running, and reverts back to its natural state once the force is removed. The structure of **NEOCHONDRO** demonstrates similar characteristics that allow it to change its structure when an external force is added, and to return to its original structure when the external force is removed (Figure 1).¹ Materials such as HA that exhibit this behavior are called viscoelastic.

A material's viscoelasticity can be measured by temporarily applying a force (shear stress loading) to the material, removing it, and then measuring the resulting strain on the product. Materials with a higher viscoelasticity will exhibit less strain than those with a lower viscoelasticity.

In this test, a parallel plate rheometer was used to apply force (shear stress loading) to the samples of **NEOCHONDRO**, LMW and HMW sodium hyaluronate, Monovisc, a commercially available Non-Cross-Linked HA (NCL-HA) prepared to standards outlined in the Japanese Pharmacopoeia (Figure 2). The resulting strain was measured.

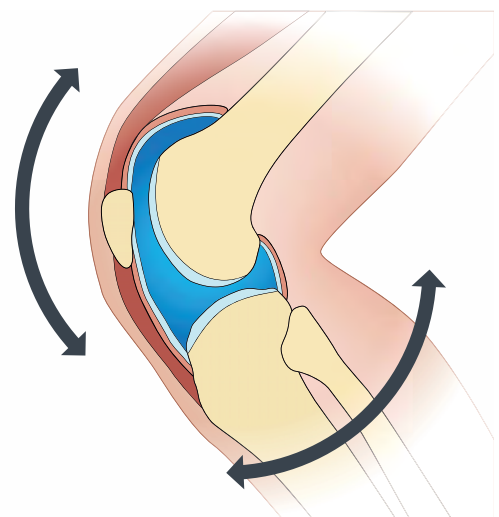


Figure 1: Shear stress loading of the knee joint includes bending, stretching and rotation

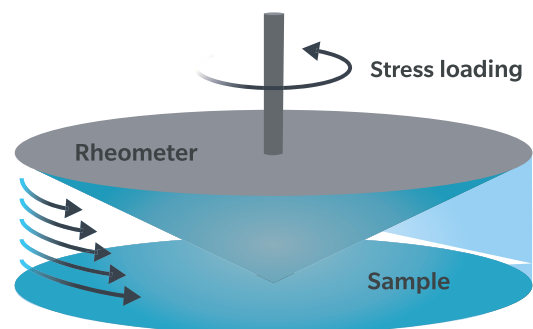


Figure 2: Rheometer measures strain of an HA product after force (shear stress loading) is applied to it.

Results

NEO^{CHONDRO} unique Hyaluronate structure demonstrated the greatest viscoelasticity, and therefore the greatest durability, or resistance to deformation, of the HA materials tested. The structure of **NEO^{CHONDRO}** even after receiving repeated stress loading.¹ On the other hand, the failed to recover to its original state after the first stress loading and continued to fail to regain its original state after each subsequent loading (Figure 3).

NEO^{CHONDRO} also demonstrated greater viscoelasticity than NCL-HA, Monovisc, and LMW and HMW sodium hyaluronate. In this test Monovisc and NCL-HA lack the ability to recover even after only single stress load, meaning that these products experienced immediate deformation from the time the first stress was applied (Figure 4).

Figure 3: Viscoelasticity of **NEO^{CHONDRO} in repeated stress loading Compared to LMW and HMW sodium hyaluronate**

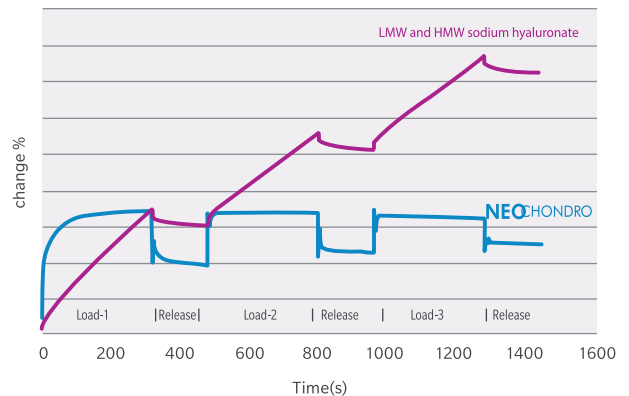
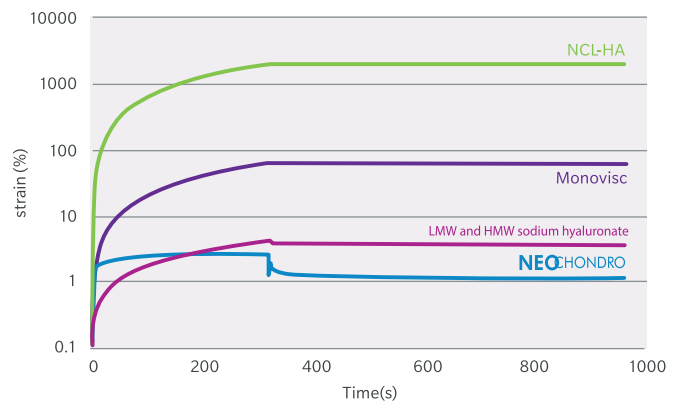


Figure 4: Viscoelastic Response After a Single Stress Loading



References

* Lab testing not necessarily indicative of clinical results

Important Safety Information

Before using **NEO^{CHONDRO}**, tell your doctor if you are allergic to hyaluronan products, cinnamon, or products from birds such as feathers, eggs, and poultry. **NEO^{CHONDRO}** is only for injection into the knee, performed by a doctor or other qualified health care professional. You should not receive a **NEO^{CHONDRO}** injection if you have a skin disease or infection around the area where the injection will be given. **NEO^{CHONDRO}** has not been tested to show pain relief in joints other than the knee and for conditions other than OA. **NEO^{CHONDRO}** Hyaluronate has not been tested in patients who are pregnant, mothers who are nursing, or anyone under the age of 21. You should tell your doctor if you think you are pregnant or if you are nursing a child. Talk to your doctor before resuming strenuous or prolonged weight-bearing activities after treatment. The safety and effectiveness of repeat treatment cycles of **NEO^{CHONDRO}** have not been established. The side effects most commonly seen after injection **NEO^{CHONDRO}** in the clinical trial were knee pain, swelling, and/or fluid build-up around the knee. These reactions are generally mild and do not last long. Other conditions, including but not limited to skin redness and rash, knee stiffness, knee muscular weakness and dizziness, were also reported rarely. If any of these symptoms or signs appear after you are given **NEO^{CHONDRO}** or if you have any other problems, you should call your doctor.



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