

#### **ORTHOPAEDICS**

### **KD Intra-Articular® Gel**

**Viscosupplementation Solution for Orthopaedics** 



#### ORTHOPAEDICS

### **KD Gel Product Line: Features**

#### **Full range**

We are proud to present a full range of viscosupplementation for the treatment of osteoarthritis.

#### **Optimal viscosupplementation**

Synovial fluid contains hyaluronic acid that cushions, lubricates and protects joint tissues. KD Intra-Articular® Gel is a superior sterilized viscoelastic solution based on biofermented sodium hyaluronate for intra-articular supplementation that mimicks the human synovial function. A significant range of fill volumes and hyaluronic acid concentrations makes up the widest portfolio on the market today.

#### **Back to active life**

Our goal is to deliver the highest quality products that improve patients' quality of life. To meet this goal we developed our KD Intra-Articular® Gel product line.

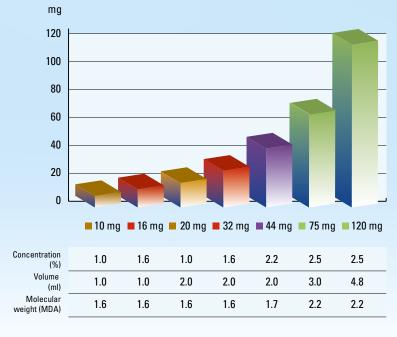
#### Following international standards

Our product development and manufacturing follows international regulations such as the European Pharmacopoeia and the ISO standards. We guarantee consistent high quality and safety by processing raw material of non-animal origin from established European manufacturers, producing with validated and certified processes, and using only glass syringes and steam sterilization.

### **KD Gel Product Line: Concentration and Volume**

- Widest product range
- High molecular weight
- Steam sterilization







## **KD Gel Product Line: Advantages and Benefits**

#### Widest product range

A broad range of concentrations of 1.0 % to 2.5 % combined with volumes of 1.0 ml to 4.8 ml has the advantage of allowing treatment with a perfectly adapted product of following synovial joints: knee, hip, ankle, shoulder, elbow and hand. For all treatment specifications and patient demands, our product is the perfect solution for the most complete, fast and safe improvement of comfort and mobility.

- Products optimized for individualized application
- Designed to treat following synovial joints: knee, hip, ankle, shoulder, elbow and hand
- Shock absorbing and optimal lubrication

#### Faster pain relieve

The benefits of the KD Intra-Articular® Gel line are faster pain relieve and improved joint function, as well as the slowing of cartilage degeneration, resulting in decreasing need of surgical intervention.





# **KD Gel Product Line: Specification**



Specification	1.0 %	1.0 %	1.6 %	1.6 %	2.2 %	2.5 %	2.5 %
Sodium hyaluronate	10 mg	20 mg	16 mg	32 mg	44 mg	75 mg	120 mg
Molecular weight* (MDa)	1.6	1.6	1.6	1.6	1.7	2.2	2.2
Viscosity* (mPas)	25 000	25 000	50 000	50 000	300 000	500 000	500 000
Osmolality (mOsm/kg)	270-400	270-400	270-400	270-400	270-400	270-400	270-400
Storage	2–25 °C	2-25 °C					
рН	6.8-7.4	6.8-7.4	6.8-7.4	6.8-7.4	6.8-7.4	6.8–7.4	6.8-7.4
Volume (ml)	1.0	2.0	1.0	2.0	2.0	3.0	4.8
Shelf life (months)	42	42	42	42	42	42	42

\*mean value after steam sterilization

#### **REFERENCES**

- 1. Reid MC: Viscosupplementation for osteoarthritis: a primer for primary care physicians (2013)
- 2. Roque V, Agre M, Barroso J: Managing knee osteoarthritis: efficacy of hyaluronic acid injections (2013)
- 3. Arrich J, Piribauer F, Mad P: Intra-articular hyaluronic acid for the treatment of osteoarthritis of the knee: systematic review and meta-analysis (2005)
- McArthur BA et al.: Long term safety, efficacy, and patient acceptability of hyaluronic acid injection in patients with painful osteoarthritis of the knee (2012)
  Theiler R, Brühlmann P: Overall tolerability and analgesic activity of intra-articular sodium hyaluronate in the treatment of knee osteoarthritis (2005)
- 6. Berenbaum F et al.: A randomised, double-blind, controlled trial comparing two intra-articular hyaluronic acid preparations differing by their molecular weight in symptomatic knee osteoarthritis (2012)
- 7. Iannitti T et al.: Intra-articular injections for the treatment of osteoarthritis: focus on the clinical use of hyaluronic acid (2011)
- 8. CleggTE et al.: Viscosupplementation with hyaluronic acid in the treatment for cartilage lesions: a review of current evidence and future directions (2012)
- 9. Foti C et al.: A prospective observational study of the clinical efficacy and safety of intra-articular sodium hyaluronate in synovial joints with osteoarthritis (2011)
- 10. Bellamy N et al.: Viscosupplementation for the treatment of osteoarthritis of the knee (2006)
- 11. Hatoum HT et al.: Cost-effectiveness analysis of intra-articular injections of a high molecular weight bioengineered hyaluronic acid for the treatment of osteoarthritis knee pain (2014)
- 12. Strauss E et al.: The efficacy of intra-articular hyaluronan injection after the microfracture technique for the treatment of articular cartilage lesions (2009)
- 13. Chang KV et al.: Effectiveness of intra-articular hyaluronic acid for ankle osteoarthritis treatment: a systematic review and meta-analysis (2013)

