SYNCHROVISC
TREATMENT OF HYALURONIC ACID
FOR ALL JOINTS
SYNCHROVISC

TREATMENT OF HYALURONIC ACID
FOR ALL JOINTS
**PHITOCEN HOLDING** is a world leader in the production of Hyaluronic acid-based injection products. The company enriched its commercial activity with scientific publishing and trainings for professionals (physicians and specialists in the field of aesthetics and orthopedics).

**SYNCHROVISC** is a system of injectable products based on **HYALURONIC ACID**, intended as substitutes to the synovial fluid and indicated for the **PREVENTION** and **TREATMENT** of degenerative and trauma-caused diseases of all joints.

The intra-joint therapy with **SYNCHROVISC BASIC**, **SYNCHROVISC START** and **SYNCHROVISC FORTE** helps to reduce pain and to restore the functioning of the joints.
What is Hyaluronic Acid (HA)

• It is a natural component of the connective tissue
• Given its ability to form connections with collagen, proteoglycans, fibronectin and water, it is the basis of large molecular units that support the extracellular matrix
• It is an important component of the synovial fluid
• Helps to lubricate the joint and to damp down mechanical stress (lubricating and damping function)
• Protects the cartilage against the penetration of inflammatory cells and from the lytic enzymes

Hyaluronic Acid and Joints

In trauma-caused and degenerative diseases of the joints there is an in situ decrease of hyaluronic acid, due to which the synovial fluid is less viscous. Such deficiency determines a compression of the articular function and causes pain.

THE INTRA-ARTICULAR ADMINISTRATION OF EXOGENOUS HYALURONIC ACID HELPS TO:

- Prevent the natural degrading of the joints
- Reduce the pain and inflammation
- Restore the visco-elastic properties of the synovial fluid
- Improve articular mobility

What risks are there for the joints?

The joints are subject to degenerative, sometimes chronic, diseases. The most common of these is the CHONDRAL DISEASE, that causes regressive alterations of:

• JOINT CARTILAGE
• SYNOVIAL MEMBRANE
• CAPSULE
• ARTICULAR BONE EXTERMITIES
• MUSCLES
• PERIARTICULAR TENDON STRUCTURES
• LIGAMENTS
**SYNCHROVISC BASIC** and **SYNCHROVISC START**

Linear Hyaluronic Acid

Are medical devices based on a HIGHLY PURIFIED HYALURONIC ACID with a molecular weight between 800 and 1200 KDalton. The products are meant for injections and consist of a buffered physiological solution of Hyaluronic Acid sodium salt, which is the basic component of the synovial fluid and determines the visco-elastic properties of the latter.

The sodium hyaluronate used in **SYNCHROVISC BASIC** and **SYNCHROVISC START** is obtained through fermentation thus, excluding any kind of chemical modification. This fact provides for a totally pure product, free of external residuals.

Each package contains one single-use glass syringe with 2ml of sterile solution.

**SYNCHROVISC FORTE 3**

3 molecular weights of cross-linked Hyaluronic Acid

The action mechanisms of the hyaluronic acid depend on its molecular weight and concentration. The cross-linkage allows for a higher degree of complexity and resistance of the molecule, so that it is degraded by the hyaluronidase much slower and in a more homogeneous manner.

After the degradation process is terminated, the low residue of proteins and BDDE guarantees for a total purity of the treated environment. The 3 molecular weights acting in synergy due to the cross-linkage, contemporarily boost visco-induction and visco-supplementation. The permanence inside the joint is longer than in the case with linear hyaluronic acid.

**SYNCHROVISC FORTE** is a transparent gel based on cross-linked hyaluronic acid. The product is created with an advanced and patented technological process.

### 3 Molecular fractions cross-linked with BDDE

- Long permanence inside the articular cavity
- Visco-supplementary effect
- Volumetric action
- Buffer effect
- Trophic action
- Re-balance of the macrophage and metalloproteinase actions
- Re-structuring action
- Stimulation of synoviocytes to produce endogenous hyaluronic acid
- Repairing of the cartilage
- Antalgic action
Indications

IS A SUBSTITUTE FOR THE SYNOVIAL FLUID, MEANT FOR THE RESTORATION OF PHYSIOLOGICAL AND RHEOLOGICAL PROPERTIES OF COMPROMISED JOINTS, IN CASE OF PAIN OR REDUCED MOBILITY CAUSED BY DEGENERATIVE OR POST-TRAUMATIC DISEASES.

Features

INHIBITION OF THE INTERLEUKINE IMMEDIATE REDUCTION OF PAIN AND INFLAMMATION FAST RESTORATION OF THE FUNCTIONS, VISCO-SUPPLEMENT, ANALGESIC EFFECT TROPISM FOR ARTICULAR CAPSULAR PAIN RECEPTORS INHIBITION OF ACID PHOSPHATASE

Composition

BUFFERED PHYSIOLOGICAL SOLUTION OF THE HYALURONIC ACID SODIUM SALT

Dosage

2 ML

Molecular Weight

800 KDALTON
1,200 KDALTON

Properties

VISCOSUPPLEMENTATION & VISCO-INDUCTION

HA Concentration

0.8%
16MG/2ML

Package

1 PRE-FILLED SINGLE USE SYRINGE

Cross-linking Agent

NOT CROSS-LINKED
Indications
IS A SUBSTITUTE FOR THE SYNOVIAL FLUID, MEANT FOR THE RESTORATION OF PHYSIOLOGICAL AND RHEOLOGICAL PROPERTIES OF COMPROMISED JOINTS, IN CASE OF PAIN OR REDUCED MOBILITY CAUSED BY DEGENERATIVE OR POST-TRAUMATIC DISEASES.

Features
INHIBITION OF THE INTERLEUKINE
IMMEDIATE REDUCTION OF PAIN AND INFLAMMATION
FAST RESTORATION OF THE FUNCTIONS, VISCO-SUPPLEMENT, ANALGESIC EFFECT
TROPISM FOR ARTICULAR CAPSULAR PAIN RECEPTORS
INHIBITION OF ACID PHOSPHATISE

Composition
BUFFERED PHYSIOLOGICAL SOLUTION OF THE HYALURONIC ACID SODIUM SALT

Dosage
2 ML

Molecular Weight
800 KDALTON
1200 KDALTON

Properties
VISCOSUPPLEMENTATION & VISCO-INDUCTION

Concentration
16% 32MG/2ML

Package
1 PRE-FILLED SINGLE USE SYRINGE

Cross-linking Agent
NOT CROSS-LINKED
Indications

IS A SUBSTITUTE FOR THE SYNOVIAL FLUID, MEANT FOR THE RESTORATION OF PHYSIOLOGICAL AND RHEOLOGICAL PROPERTIES OF COMPROMISED JOINTS, IN CASE OF PAIN OR REDUCED MOBILITY CAUSED BY DEGENERATIVE OR POST-TRAUMATIC DISEASES.

Features

IS A BUFFERED PHYSIOLOGICAL SOLUTION, CONTAINING 2.5% OF CROSS-LINKED HYALURONIC ACID WITH SIGNIFICANT VISCOS AND ELASTIC PROPERTIES. THE SODIUM HYALURONATE IS A FUNDAMENTAL COMPONENT OF THE SYNOVIAL FLUID, BEING RESPONSIBLE FOR THE PARTICULAR VISCOS AND ELASTIC PROPERTIES OF THE LATTER.

Composition

CROSS-LINKED AND INTERCALATED HYALURONIC ACID

Dosage

3 ML

Molecular Weight

CROSS-LINKED HA 0.5+1+2M DALTON

Properties

VISCOSUPPLEMENTATION & VISCO-INDUCTION

Concentration

2.5% 75MG/3ML

Package

1 PRE-FILLED SINGLE USE SYRINGE

Cross-linking Agent

BDDE

IN DEGENERATIVE AND TRAUMA-CAUSED DISEASES OF THE JOINTS WHERE A DECREASE IN THE AMOUNT OF HYALURONIC ACID CAN BE OBSERVED
SYNCHROVISC
Basic 1
16 mg / 2 ml

SYNCHROVISC
Start 2
32 mg / 2 ml

SYNCHROVISC
Forte 3
75 mg / 3 ml

Bibliography

1. 52° Congresso Nazionale della Società Italiana di Reumatologia - RIMINI 25-28 NOVEMBRE 2015
L’uso dell’acido ialuronico nelle condopatie del ginocchio: Regenflex Starter contro Bioplus nelle patologie traumatiche I. Capparuccio, C. Bartolucci, A. Federic, Valentini, V. Viti (1) Dipartimento di Scienze Biomolecolari Facoltà di Scienze Motorie Insegnaman-
do di Medicina dello Sport Uniurb, Urbino (Italy).

2. VI CONGRESSO NAZIONALE SISMED - Ricerca e Formazione applicate alle Scienze Motorie e sportive Padova, 2-4 Ottobre 2015


4. THE JOURNAL OF ORTHOPAEDICS TRAUMA SURGERY AND RELATED RESEARCH


Application protocol for the prevention and treatment of degenerative and trauma-caused chondral diseases.

The recommended protocol differs according to the pain, absence of pain/prevention and by reparations in trauma-caused or degenerative chondral diseases.

<table>
<thead>
<tr>
<th>Treatment Phase</th>
<th>Injection Schedule</th>
<th>Required Products</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PRESENCE OF PAIN</strong></td>
<td>T 0</td>
<td>SYNCHROVISC Start 2</td>
</tr>
<tr>
<td></td>
<td>T 8 days</td>
<td>SYNCHROVISC Forte 3</td>
</tr>
<tr>
<td></td>
<td>T 6 months</td>
<td>SYNCHROVISC Forte 3</td>
</tr>
<tr>
<td><strong>ABSENCE OF PAIN OR FOR PREVENTION</strong></td>
<td>T 0</td>
<td>SYNCHROVISC Forte 3</td>
</tr>
<tr>
<td></td>
<td>T 6 months</td>
<td>SYNCHROVISC Forte 3</td>
</tr>
<tr>
<td></td>
<td>T 12 months</td>
<td>SYNCHROVISC Forte 3</td>
</tr>
<tr>
<td><strong>INDUCTION CURE ALSO WITH PAIN</strong></td>
<td>T 0</td>
<td>SYNCHROVISC Start 2</td>
</tr>
<tr>
<td></td>
<td>T 8 days</td>
<td>SYNCHROVISC Basic 1</td>
</tr>
<tr>
<td></td>
<td>T 3 months</td>
<td>SYNCHROVISC Forte 3</td>
</tr>
<tr>
<td><strong>INDUCTION CURE WITH PAIN</strong></td>
<td>T 0</td>
<td>SYNCHROVISC Start 2</td>
</tr>
<tr>
<td></td>
<td>T 8 days</td>
<td>SYNCHROVISC Start 2</td>
</tr>
<tr>
<td></td>
<td>T 16 days</td>
<td>SYNCHROVISC Start 2</td>
</tr>
<tr>
<td><strong>TENDONITIS &amp; TENDINOSIS</strong></td>
<td>T 0</td>
<td>SYNCHROVISC Start 2</td>
</tr>
<tr>
<td></td>
<td>T 5 days</td>
<td>SYNCHROVISC Start 2</td>
</tr>
<tr>
<td></td>
<td>T 30 days</td>
<td>SYNCHROVISC Start 2</td>
</tr>
</tbody>
</table>

Who can carry out the treatment

The SYNCHROVISC products are injected into the joint in order to relieve pain, restore the natural lubrication and buffering, improve the functioning of joints and the quality of life.

The treatment can be carried out by several specialists:
SYNCHRO VISC

TREATMENT OF HYALURONIC ACID
FOR ALL JOINTS

PHITOCEN HOLDING