


\*Not an actual patient.



# nSTRIDE<sup>®</sup> Autologous Protein Solution System

Treating Osteoarthritic Knee Pain



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# Do you have knee pain?

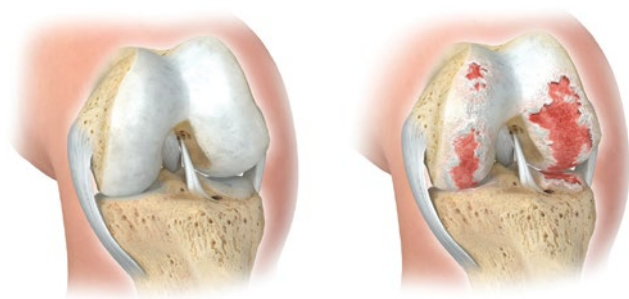
Knee pain is a common symptom experienced by people of all ages. It can be caused by a traumatic event, or by normal wear and tear that can become worse over time.<sup>1</sup> The knee is a type of hinge joint formed by the tibia (shinbone), femur (thighbone), and patella (kneecap).

The ends of the bones in the knee joint are covered with cartilage, a tough lubricating tissue that helps provide smooth, pain-free motion to the joint.<sup>2</sup> When knee pain becomes worse over time, arthritis may be the cause.<sup>3-4</sup> Symptoms of arthritis are pain, swelling, or stiffness in the joint and may be caused by inflammation.<sup>3,5</sup> In Canada, 98% of initial knee replacements are due to osteoarthritis.<sup>6</sup>



## What is Osteoarthritis (OA)?

OA is the most frequent type of arthritis and most commonly affects the knee joint.<sup>3-4</sup> Osteoarthritis is damage done to the joint over time.<sup>3-5</sup> In a normal joint, cartilage provides cushioning between bones. As wear or a traumatic event occur, the cartilage layer can become thinner or frayed resulting in knee pain.<sup>4-5</sup> Over time, pain increases as cartilage wears away and bones rub against each other.<sup>4</sup> Osteoarthritis negatively impacts quality of life through pain, limited mobility, reducing the ability to work and diminishing self-esteem.<sup>4-5</sup>



## What are the stages of OA?

OA symptoms can range from very mild to very severe and often limit your everyday activities:

### Early<sup>6</sup>

Cartilage begins to wear down. Symptoms are generally mild, and may include pain that comes and goes.<sup>7-8</sup>

### Moderate<sup>6</sup>

Joint fluid may lose its ability to lubricate and cushion the affected joint. You may have more pain and difficulty in movement.<sup>7-8</sup>

### Late<sup>6</sup>

Areas of cartilage may totally wear away, causing bones to rub against each other.<sup>6-7</sup> You may experience significant pain.<sup>7-8</sup>

## Once OA pain starts it is hard to stop

nSTRIDE APS System is a novel therapy (from your own body) designed to treat pain<sup>9\*</sup> and slow the progression of cartilage degradation and destruction in the knee.<sup>10^</sup> nSTRIDE APS System processes your own blood to provide a true novel output.

The output is injected directly into the knee joint distributing beneficial and good proteins.<sup>11</sup> In laboratory testing, these “good” proteins block and slow the degradation of cartilage treating the underlying cause of OA knee pain, unlike traditional therapies.<sup>10^</sup> Your results may be different than those obtained in the laboratory.

- **Significantly reduces pain associated with Knee OA up to 2 years**<sup>9\*, 12, 17</sup>
- **Significantly improves mobility in the knee joint**<sup>9\*, 12, 17</sup> associated with OA
- **70% improvement in knee pain at 2 years following a single treatment**<sup>17</sup>



\*Not an actual physician and patient.

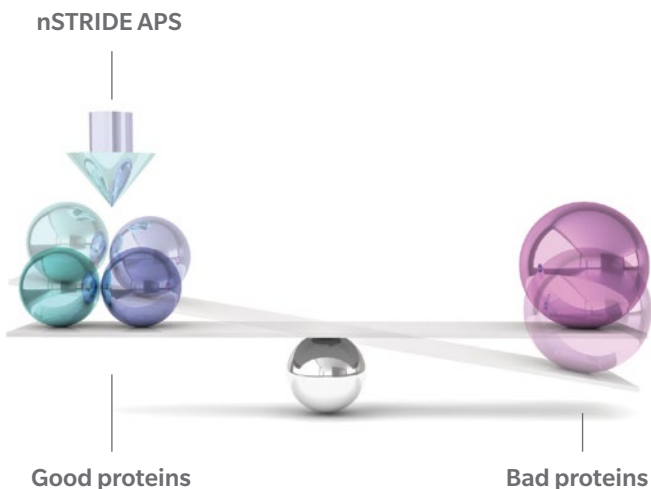
## Science behind nSTRIDE APS System

In an osteoarthritic knee, inflammatory cytokines (“bad” proteins) outnumber anti-inflammatory cytokines (“good” proteins) causing an imbalance resulting in knee pain and cartilage degeneration.<sup>13</sup>

The inflammatory proteins IL-1 and TNF $\alpha$  attack the cartilage.<sup>13</sup> These “bad” proteins must be stopped simultaneously to decrease pain and slow cartilage degeneration.<sup>13</sup>

The nSTRIDE APS treatment introduces high levels of “good” proteins (IL-1ra, sIL-1R, sTNF-RI, and sTNF-RII)<sup>10</sup> that is designed to overwhelm and block the inflammatory cytokines (bad proteins) IL-1 and TNF $\alpha$ .<sup>14</sup>

Animal and human studies have shown that nSTRIDE APS treatment decreases pain.<sup>9,12,17</sup> In laboratory setting it has also been associated with decreased cartilage degeneration, unlike traditional therapies.<sup>10</sup> Again, your results may differ.



While balance is being restored to the knee, anabolic (building) growth factors (IGF-1 and TGF- $\beta$ 1) are also introduced for beneficial cartilage health.<sup>11</sup>

Therefore, nSTRIDE APS System creates a novel therapy which may reduce pain in the knee joint, may improve joint function and slow the destruction of cartilage.<sup>10</sup> This therapy is provided in a non-surgical, single treatment in the doctor’s office.

# Frequently asked questions

## **What is nSTRIDE APS System?**

nSTRIDE APS System is an autologous (from your own body) therapy which is designed to treat joint pain associated with knee osteoarthritis.

## **How does nSTRIDE APS treatment work?**

nSTRIDE APS treatment introduces anti-inflammatory proteins to the knee joint. Positive outcomes are possible because the treatment may help stimulate presence of high concentrations of anti-inflammatory proteins.<sup>15</sup> These “good” proteins may help stimulate a biologic cascade which has been shown to block cartilage destruction in osteoarthritis.<sup>10^</sup> The pain in the joint may be reduced, and the joint function may be improved. The ongoing destruction of cartilage may also be slowed.<sup>10^</sup> The nSTRIDE APS System is designed to be a single treatment therapy in the doctor’s office.

## **What is nSTRIDE APS System made of?**

The nSTRIDE APS System is designed to process the patient’s own blood in the doctor’s office to concentrate white blood cells, platelets, and plasma proteins into a small volume of plasma. The output is approximately 2 to 3 cc of anti-inflammatory solution.

## **How is nSTRIDE APS treatment given?**

2-3 cc of final output will be injected directly in the knee joint.

## **Are there side effects?**

You may experience side effects (e.g., bruising, local pain or swelling) associated with the blood draw, knee injection, MRI or X-Ray procedures.

## **Will nSTRIDE APS treatment cure my OA?**

There is no cure for OA.<sup>16</sup> But successful treatment with nSTRIDE APS System may reduce or relieve your pain which may increase your mobility and comfort.<sup>12</sup> Your osteoarthritis may not improve or may get worse.

## **What are the main benefits of nSTRIDE APS treatment?**

nSTRIDE APS System may significantly decrease or eliminate pain, reduce stiffness and help restore mobility and flexibility.<sup>9\*, 12</sup>

## **When will the treatment start to work?**

Pain relief may be expected after one to two weeks.<sup>9\*, 12</sup>

## Is nSTRIDE APS System safe?

Yes. Studies have demonstrated the safety of nSTRIDE APS System.<sup>9\*,12</sup>

## Will I be able to be active as usual during the course of my treatment?

It is recommended that you minimize your activity level for 14 days (but not to exceed pre-injection levels).

## How long can I expect the benefits to last?

Based on preclinical and early clinical results, patients may expect to see benefits for up to 24 months.<sup>9\*,12,17</sup>

## Who can be treated with the nSTRIDE APS System?

Patients with mild to moderate knee osteoarthritis can receive nSTRIDE APS therapy.

## How many nSTRIDE APS treatments are required?

Clinical studies have demonstrated the effectiveness of one treatment lasting up to 24 months.<sup>9,12,17,\*</sup>



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\* Animal studies are not necessarily indicative of clinical performance.

^ Laboratory testing is not necessarily indicative of clinical outcomes.

# As measured by WOMAC pain scores reported by patients continuing follow-up through 2 years (n = 22).

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