



SPÜRBAR ANDERS.

## Investigation of the effects of wearing Incrediwear products for improved recovery and reduction in player downtime.

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### Introduction & Purpose

In each Bundesliga season clubs have to contend with downtime of injured players, which does not always result from direct contact with opponents, but rather from a lack of physical regeneration.

The number of muscular injuries, especially in the lower extremities, is growing steadily. More than 1500 times Bundesliga players were forced to take a break in the season of 2017/2018, with injuries mainly affecting the thighs / calves (36.3%), knees (15.1%) and ankles (13.8%).<sup>1</sup>

In order to achieve an improved regeneration, the players of the pro team of the 1. FC Cologne wore Incrediwear Recovery clothing in the season of 2018/19. They wore these products both in the rest/sleep phases as well as in the training units.

### **INCREDIWEAR**

Unlike compression products, Incrediwear products do not need to compress to work. Instead, the technology incorporates semiconductor elements (Germanium and Carbon) within the fabric, which when stimulated by body heat, release negative ions. The negative ions activate molecular vibrations that increase blood flow and speed.

Purpose: To investigate the effects of wearing Incrediwear sleeves and braces for improved recovery and reduction in player downtime.

<sup>1</sup>Source: fussballverletzungen.com



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## Methods

Design: Review of the injury reports of a Bundesliga club in the season of 2018/2019

Equipment: Pro team (25 players) were equipped by Incrediwear Sleeves and Braces:

### For the rest, travel and sleep phase:

- Performance Pants (leggy)
- Circulation Shorts (short legs)
- Sport Socks / Circulation Socks

### For acute injuries, chronic complaints, rehabilitation, pre- / postoperative:

- Leg Sleeve - Ankle Sleeve
- Knee Sleeve - Body Sleeve
- Calf Sleeve - Back Brace

### Investigation Analysis:

At the end of the season, a questionnaire was handout to the players by the medical department for subjective evaluation. In addition, the injury statistics were evaluated in comparison to the previous season.

### Incrediwear Protocoll:

#### In case of injury:

Wearing a sleeve of the affected area or combined with other sleeves.

#### Chronic complaints:

Wearing a sleeve / brace of the affected area in the resting phase and overnight.

#### General:

Use during the travel days and before, during and after the training sessions and in the sleep phase.



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## Evaluation of the Questionnaires

The questionnaire survey generally gave the following results:

### 1.) High Quality and Comfort

The Incrediwear products are given a very high quality and very good wearing comfort by the players. The products can be used without restrictions in active or passive phase by the players and show a high acceptance among the players.

### 2.) Subjectively improved Regeneration

After a longer sleep phase (overnight), the players experience a subjectively improved regeneration of the stressed muscles. Especially after intense training sessions is reported by "lighter legs" and "less muscle pain".

In case of acute injuries (ligament distension, stowage) a rapid, optically clearly visible swelling of the affected area is observed. Generally, the Incrediwear products help to optimize the effects after therapeutic treatments and to increase the range of motion.

### 3.) Subjectively better Burden

By wearing the Incrediwear products while traveling by bus, train or plane, the players are more ready to perform faster. Higher burdens can be dealt with faster and more effectively and players report "lighter legs" just after a day's travel.

### 4.) Improvement of Symptoms

For players with chronic discomfort they report a noticeable reduction in pain, coupled with a gain in more freedom of movement in the affected area.

Players with groin discomfort report significantly less local pain after getting up and improved gait after wearing an Incrediwear Hip Brace overnight.



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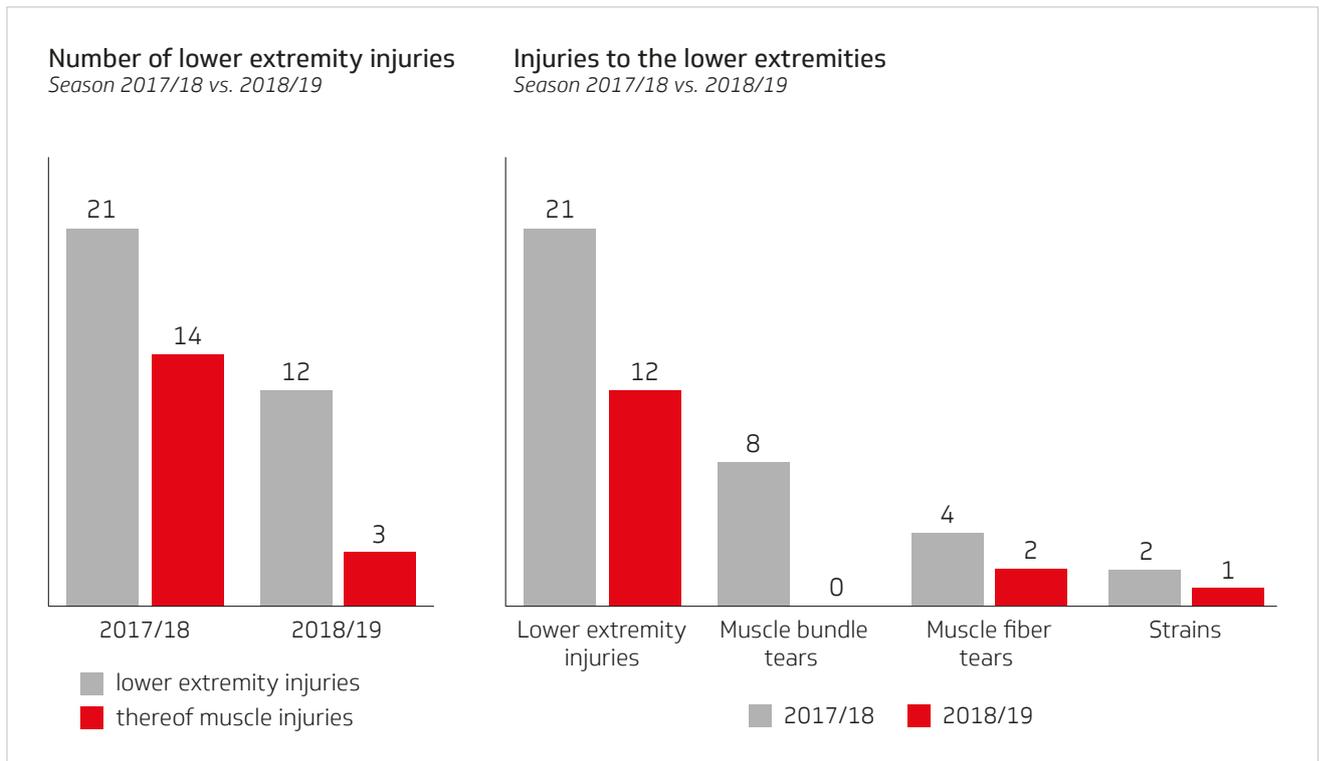
## Injury statistics for the seasons 2017/208 and 2018/2019

There are significant differences in the comparison of lower extremity injuries (2017/2018 season without Incrediwear products, 2018/2019 season with Incrediwear products).

In the season of 2017/18, there were 14 muscle injuries in the lower limb:

- 8 Muscle bundle tears in the area of the hamstrings
- 4 Muscle fiber tears in the area of the hamstrings
- 2 Strains in the area of the quadriceps femoris

All mentioned injuries resulted in longer downtime of the players.



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In season of 2018/19 there was a significant improvement in the lower extremity injuries:

- 2 Muscle bundle tears in the area of the quadriceps femoris
- 1 Strains in the area of the Hamstrings.

Striking was the significantly lower downtime of the players involved. This is attributed to the continued use of the Incrediwear Recovery products, which were served to provide better overnight regeneration noticeably and better supply of nutrients to the muscles.

## Conclusion

After applying the Incrediwear products in the season of 2018/2019, the medical department of 1. FC Cologne draws a very positive conclusion.

The Incrediwear Recovery products are very popular by players, who generally received positive feedback after using the products and are convinced of the products, not least because of their high wearing comfort and ease of use.

The Incrediwear products help to improve players' recovery, provide effective regenerative supplementation on travel days and generally reduce muscular issues.

When using the Incrediwear Sleeves (Ankle, Knee, Calf or Elbow Sleeve), it can be said that they contribute to faster edema absorption and pain improvement in the case of acute injuries. As a complementary product after therapeutic treatments, the Incrediwear products proved to be useful.

In chronic symptoms, especially after wearing at night, it also comes in the morning after getting up to a pain improvement, and after some time to significantly improve the range of motion.

1. FC Cologne will continue to use Incrediwear products for the supportive regeneration of its professional players over the season of 2018/2019.