

## Skin Abrasion and Chafing Caused by Sauna Suit Clothing

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**Key Words:** Sauna suit clothing, chafing, abrasion

### Abstract

**Observation:** Sauna suit clothing is used to help control and lose weight while exercising. A 35-year-old female admitted to our clinic with pain, and wound in the groin fold after she had been used sauna suit clothing 30 minutes a day for three day while aerobic exercising. She diagnosed with skin chafing and abrasion in the both side of groin. The wounds were treated conservatively for 3 weeks period without surgery. Best of our knowledge; this is the first report describing skin injury which was caused by sauna suit clothing.

### Introduction

Obesity is an important and growing health problem all around the world. Exercise or exercise plus diet are basic way to weight control in overweight people. In order to control and lose weight, people are using a rubber or plastic suit while exercising [1]. The transport of heat and water vapor are restricted by this sauna suit clothing. Wearing these sauna suits, maximizing the weight loss, helps to warm the human body to a higher temperature, and to make them perspire more during exercise [2]. Factors that contribute to the formation of chafing and abrasion include heat, moisture, poorly fitting clothes, and excessive or unusual exercises early in training [3]. Friction and pressure often cause skin trauma. The trauma brings on chafing, abrasions, blisters, talon noir (black heel), and acne [4]. Heated, moisturized skin is exposed to friction and pressure in this tight

sauna suit clothing. Hence, chafing and abrasions may be seen in a person who is using sauna suit clothing.



**Figure 1.** Chafing and abrasions affecting the groin fold of the patient



**Figure 2.** Yellow exudates are seen on the groin fold of the clothing

### Case Report

A 35-year-old woman admitted to our clinic with pain and redness in groin fold on the both sides. Redness started two days ago. Redness, containing a serous fluid, presented in the same time on both sides. Yellow exudates presented for a short time after the redness appeared. She has been using sauna suit clothing in order to weight loss 30 minutes a day for three days while aerobic exercising. Patient did not have family history of skin disorders. Dermatologic examination was revealed approximately 13 x 3 cm symmetric skin erythematic and yellow-brown exude which are located in the medial both side of groin (**Figure 1**). Her body mass index was 29.3. Any other abnormality was not found in systemic examination. As her sauna suit clothing examined, yellow exudates was seen on the groin fold of the clothing (**Figure 2**). The wounds are cleaned and removed dead skin layer. The wounds were treated conservatively for 3 weeks period without surgery. Remission was noted after the treatment (**Figure 3**).

### Discussion

Both obesity and overweight are a common healthy problem all around the world. People are using various ways and tools to weight control. Most frequently reported techniques included increasing exercise, restricting food, exercising in a hot environment, using a steam room or sauna, restricting fluids, and exercising in a rubber or plastic suit [1]. Sauna suits clothing is used to lose and con-



**Figure 3.** After ten days of treatment

trol weight. Our patient has been using sauna suit clothing to weight loss 30 minutes a day for three days while aerobic exercising.

Sauna suit clothing restricts heat lost from the body and increased skin temperatures. During periods of physical activity, the body produces a certain quantity of sweating by activity level. The transport of heat and water vapor were restricted by this clothing [2]. She worn sauna suit clothing and sweated a lot during her aerobic exercising. The great amount of perspiration piled up between skin and sauna suit clothing.

Factors that contribute to the formation of chafing and abrasion include heat, moisture, poorly fitting clothes, and excessive or unusual exercises early in training. Skin chafing is a superficial inflammatory dermatitis of skin surfaces. Friction and pressure combined with a warm, moist environment cause a separation of the keratin from the granular sub layer in the epidermis. It is resulting in an inflamed, oozing lesion [3]. Blisters, pressure ulcers, chafing and abrasions which are caused by physical contact, pressure, and friction, are documented. The cause may lay in the dramatic variation of skin conditions among individuals as well as among different anatomic areas of the same person [5]. Moist skin increases frictional forces. Antiperspirants with emollients and drying powders applied to the foot do not appear to decrease the probability of friction blisters [6]. Our case had promoter factors such as increased body temperature, moisturized skin, poorly fitting sauna suit clothes, and excessive or unusual exercises early in training. Chafing and abrasions formed on her groin fold in the contributed factors from rubbing and pressure on her groin

fold by sauna suit clothing while exercising. Chafing and abrasion, containing a serous fluid, presented two days ago on both sides of groin. Yellow exudates presented for a short time.

Skin chafing and abrasion treatment consists of cleaning with soap and water, drying the areas thoroughly, applying a drying powder, and topical steroid ointments to alleviate inflammation [3]. The wounds are cleaned and removed dead skin layer. The wounds were treated conservatively for 3 weeks period without surgery.

### Conclusion

As far as we know, this is the first report describing chafing and abrasions which depends on sauna suit clothing. We hope that case report will succeed in raising awareness of this problem. Dermatologists can speed healing by making a timely diagnosis, recommending ef-

fective treatment, and discussing prevention strategies.

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