

## The subcutis- A neglected aspect of dermatology

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The subcutis is a component of skin that appears to be largely neglected in the practice of Dermatology. It lies between the reticular dermis and subcutaneous muscle and fat. In the face, the subcutis is particularly important in molding and shaping facial features, as it contains superficial fascia and associated adipose tissue. The brown fat of the body also occurs within the subcutis. Herein, we describe a hyaluronan (HA)-rich layer in the superficial fascia. This HA occurs in a thin band as shown by Alcian blue and HA-specific histochemical staining and immuno-histochemical localization. The HA layer of the deep fascia functions as a lubricant, while the HA of the superficial fascia acts as an adhesive structure. This is a distinction that is important in dermato-and cosmetic-surgery. HA is a glycosaminoglycan of the extracellular matrix, a simple unbranched unadorned sugar polymer consisting of alternating units of glucuronic acid and N-acetyl-glucosamine. HA chain length is critical to its function. High molecular weight HA, when more than  $10^7$  Daltons molecular mass, acts a lubricant that permits muscle to glide easily over bones and tendons. By contrast, short chain HA chains can function as an adhesive structure. This may characterize the HA of superficial fascia. The deposition, content and histolocalization of HA in the subcutis are currently being investigated as a function of age, and in relation to a number of pathological situations, including wrinkling, repeated exposure to UV light, varicose veins, cellulite formation, inflammation and infections. This overlooked area of Dermatology holds many secrets that await exploration.

### Biography

Vladyslava Doktor is now completing her medical education and will shortly begin a residency in Dermatology. Drs. Carla and Antonio Stecco are experts in fascia biology and have published many papers and books on this subject. Dr. Stern is an expert in hyaluronan biology and biochemistry with over 240 publications. He has also edited a book recently on hyaluronan.

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