

3. Griffin SJ, Kinmonth AL, Veltman MW, Gillard S, Grant J, Stewart M. Effect on health-related outcomes of interventions to alter the interaction between patients and practitioners: a systematic review of trials. *Ann Fam Med*. 2004;2(6):595-608.
4. Barbosa CD, Balp MM, Kulich K, Germain N, Rofail D. A literature review to explore the link between treatment satisfaction and adherence, compliance, and persistence. *Patient Prefer Adherence*. 2012;6:39-48.
5. Rehman SU, Nietert PJ, Cope DW, Kilpatrick AO. What to wear today? effect of doctor's attire on the trust and confidence of patients. *Am J Med*. 2005; 118(11):1279-1286.
6. Petrilli CM, Mack M, Petrilli JJ, Hickner A, Saint S, Chopra V. Understanding the role of physician attire on patient perceptions: a systematic review of the literature: targeting attire to improve likelihood of rapport (TAILOR) investigators. *BMJ Open*. 2015;5(1):e006578.
7. Thomas MW, Burkhart CN, Lugo-Somolinos A, Morrell DS. Patients' perceptions of physician attire in dermatology clinics. *Arch Dermatol*. 2011;147(4): 505-506.
8. Kanzler MH, Gorsulowsky DC. Patients' attitudes regarding physical characteristics of medical care providers in dermatology practices. *Arch Dermatol*. 2002;138(4):463-466.
9. Maruani A, Léger J, Giraudeau B, et al. Effect of physician dress style on patient confidence. *J Eur Acad Dermatol Venereol*. 2013;27(3):e333-e337.
10. Gamble RG, Hay AA, Dunn JH, Dellavalle RP. Dermatologists wearing white coats on practice websites: current trends. *Dermatol Reports*. 2011;3(1):e6.
11. Burden M, Cervantes L, Weed D, Keniston A, Price CS, Albert RK. Newly cleaned physician uniforms and infrequently washed white coats have similar rates of bacterial contamination after an 8-hour workday: a randomized controlled trial. *J Hosp Med*. 2011;6(4):177-182.

NOTABLE NOTES

Heinrich Koebner and His Phenomenon

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Heinrich Koebner, MD, first described the isomorphic phenomenon. He was a German dermatologist born in 1838 in Breslau. He studied medicine (1855-1859) in Breslau and Berlin. After graduation he moved to Vienna, where he met Ferdinand von Hebra. Under the influence of von Hebra's and Rudolf Virchow's research, he decided to dedicate his studies to dermatology. In 1861 he founded "Dr Köbnerschen Instituts für Haut- und Geschlechtskrankheiten," a dermatologic clinic where he treated his patients for free. In the 1870s he became director of the Breslau Institution and University; then he was nominated to be head of Breslau School of Dermatology.¹ During these years he wrote further studies about syphilis, leprosy, mycosis fungoides, pemphigus, and drug-related erythematous eruption. He described epidermolysis bullosa^{1,2} for the first time. In his later years he went to Berlin, where he founded a new clinic. He died in 1904.

In 1872 Koebner reported the isomorphic effect at the Meeting of the Silesian Society of National Culture, but he published the article about this phenomenon only in 1876. In this article he described the development of psoriatic lesions after trauma, such as tattoos, horse bites, and wounds.¹ Thanks to his studies, the expression "Koebner phenomenon" is currently used to describe the formation of isomorphic lesions on healthy skin, following a cutaneous trauma. This means that if patients with a cutaneous disease are stressed by different type of stimuli (eg, as burns or surgical incisions), they will develop lesions of the same kind as their cutaneous disease (isomorphic).² This happens in many skin conditions, among them psoriasis, lichen planus, and vitiligo. The best and most used model

for koebnerization is psoriasis. Generally, Koebner phenomenon does not occur in any phase of the disease, only during active or unstable periods, and it takes about 10 to 20 days to develop.³ Koebner phenomenon should be differentiated from other phenomena. It is different from pseudo-Koebner phenomenon, which defines the spread of a comparable process by infective agents in a traumatized area (ie, molluscum contagiosum or verrucae). Wolf phenomenon, also known as isotopic phenomenon, is a condition characterized by the appearance of a new dermatosis in the same place as previous cutaneous lesions. Instead, the reverse-Koebner phenomenon involves the clearing of a skin lesion after a trauma. Finally, the disappearance of a lesion after the onset of a different one in the same area is named "Renbök phenomenon," which is Koebner spelled backward.

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1. Kuner N, Hartschuh W, Khan-Durani B. Heinrich Köbner und der "isomorphe Reizeffekt": Geschichte und Überblick. *Hautarzt*. 2003;54(3):274-278.
2. Rubin AI, Stiller MJ. A listing of skin conditions exhibiting the Koebner and pseudo-Koebner phenomena with eliciting stimuli. *J Cutan Med Surg*. 2002;6(1):29-34.
3. Camargo CM, Brotas AM, Ramos-e-Silva M, Carneiro S. Isomorphic phenomenon of Koebner: facts and controversies. *Clin Dermatol*. 2013;31(6): 741-749.