

6. Literaturverzeichnis

1. Price PB: The bacteriology of normal skin: a new quantitative test applied to a study of bacterial flora and disinfectant action of mechanical cleansing. *J Infect Dis* 1938; 63: 301-318.
2. Elsner P: What textile engineers should know about the human skin. *Curr Probl Dermatol*. 2003; 31: 24-34.
3. Lovell DL: Skin bacteria. Their location with reference to skin sterilization. *Surg Gynecol Obstet*. 1945; 80: 174-177.
4. Montes LF, Wilborn WH: Anatomical location of bacterial skin flora. *Arch Dermatol*. 1970; 101(2): 145-159.
5. Selwyn S, Ellis H: Skin bacteria and skin disinfection reconsidered. *Br Med J*. 1972; 1: 136-144.
6. Brown E, Wenzel RP, Hendley JO: Exploration of the microbial anatomy of normal human skin by using plasmid profiles of coagulase-negative staphylococci. Search for the reservoir of resident skin flora. *J Infect Dis*. 1989; 160: 644-650.
7. Hendley JO, Ashe KM: Effect of topical antimicrobial treatment on aerobic bacteria in the stratum corneum of human skin. *Antimicrob Agents Chemother*. 1991; 35: 627-631.
8. Marples MJ: The normal microbial flora of the skin. Society for applied bacteriology symposium series. 1974; 3(0): 7-12.
9. Braun-Falko O, Plewig G, Wolff HH: Dermatologie und Venerologie. Springer-Verlag Berlin, Heidelberg, New York. 1996; 4. Auflage.
10. Leonhard H: Histologie, Zytologie und Mikroanatomie des Menschen. Georg Thieme Verlag Stuttgart, New York. 1990; Band 3: 8. Auflage, S. 342-358.
11. Jung EG: Duale Reihe – Dermatologie. Hippokrates Verlag Stuttgart. 1998; 4. Auflage, S. 17-33.

12. Lippert H: Lehrbuch Anatomie. Urban und Schwarzenberg. 1996; 4. Auflage, S. 95.
13. Elias PM: Epidermal lipids, barrier function and desquamation. *J Invest dermatol.* 1983; 80(6s): 353-356.
14. Junqueira LC, Carneiro J: Histologie. Springer-Verlag Berlin, Heidelberg, New York, Tokyo. 1991; 3. Auflage, S. 412-437.
15. Schaefer H, Redelmeier TE: Skin Barrier. Principles of percutaneous absorption. Karger. 1996.
16. Chandrasekaran SK, Bayne W, Shaw JE: Pharmacokinetics of drug permeation through human skin. *J Pharm Sci.* 1978; 67(10): 1370-1374.
17. Wertz PW, Madison KC, Downing DT: Covalently bound lipids of human stratum corneum. *J Invest Dermatol.* 1989a; 92: 109-111.
18. Wertz PW, Swartzendruber DC, Kitko DJ, Madison KC, Downing DT: The role of the corneocyte lipid envelopes in cohesion of stratum corneum. *J Invest Dermatol.* 1989b; 93: 169-172.
19. Kalia YN, Pirot F, Guy RH: Homogenous transport in a heterogeneous membrane. Water diffusion across human stratum corneum in vivo. *Biophys J.* 1996; 71: 2692-2700.
20. Fluhr JW, Kao J, Jain M, Ahn SK, Feingold KR, Elias PM: Generation of free fatty acid from phospholipids regulates stratum corneum acidification and integrity. *J Invest Dermatol.* 2001; 117: 44-51.
21. Hachem JP, Crumrine D, Fluhr J, Brown BE, Feingold KR, Elias PM: pH directly regulates epidermal permeability barrier homeostasis and stratum corneum integrity/cohesion. *J Invest Dermatol.* 2003; 121: 345-353.
22. Chuong CM, Nickoloff BJ, Elias PM, Goldsmith LA, Macher E, Maderson PA, Sundberg JP, Tagami H, Plonka PM, Thestrup-Pedersen K, Bernard BA, Schröder JM, Dotto P, Chang CH, Williams ML, Feingold KR, King LE, Kligman AM; Rees JL, Christophers E: What is the “true” function of skin? *Exp Dermatol.* 2002; 11: 159-187.

23. Leyden JJ, Stewart R, Kligman AM: Experimental infections with group A streptococci in humans. *J. Invest Dermatol.* 1980; 75, 196-201.
24. Garn SM: Types and distribution of hair in man. *Annal NY Acad Sci.* 1951; 53: 498-502.
25. Whiting DA: Histology of normal hair: Atlas of hair and nail. Hordinsky MK, Sawaya ME, Scher Rk (eds). Churchill Livingstone, Philadelphia, London, Toronto, Montreal, Sydney, Tokyo, Edinburgh. 2000; S. 9-18.
26. Otberg N: Follikelpenetration. Penetrationsverhalten topisch applizierter Substanzen in den Haarfollikel - Untersuchung der Physiologie und der Größenparameter von Körperhaarfollikeln. Dissertation. Berlin 2003.
27. Lademann J, Weigmann HJ, Rickmeyer C, Bartelmes H, Schaefer H, Müller G, Sterry W: Penetration of Titanium Dioxide Microparticles in a Sunscreen Formulation into the Horny Layer and the Follicular Orifice. *Skin Pharmacol Appl Skin Physiol.* 1999; 12: 247-256.
28. Otberg N, Richter H, Knuttel A, Schaefer H, Sterry W, Lademann J: Laser spectroscopic methods for the characterization of open and closed follicles. *Laser Phys. Lett.* 2004; 1: 46-49.
29. Sperling LC, Hair anatomy for the clinician. *J Amer Acad Dermatol.* 1991; 25: 1-17.
30. Holmes RL, Williams M, Cuncliffe WJ: Pilo-Sebaceous Duct Obstruction and Acne. *Br J Dermatol.* 1972; 87: 327-332.
31. Sheu HM, Chao SC, Wong TW, Lee YY, Tsai JC: Human skin surface lipid film. An ultrastructural study and interaction with corneocytes and intercellular lipid lamellae of the stratum corneum. *Br J Dermatol.* 1999; 140: 385-391.
32. Fritsch P: Dermatologie und Venerologie. Springer-Verlag Berlin, Heidelberg. 2004; 2. Auflage, S. 245-248, S. 297.
33. Roth RR, James WD: Microbiology of the skin: resident flora, ecology, infection. *J Am Acad Dermatol.* 1989; 20(3): 367-390.

34. Fredricks DN: Microbial ecology of human skin in health and disease. *J Investig Dermatol Symp Proc.* 2001; 6(3):167-169.
35. Hahn H, Falke D, Kaufmann SHE, Ullmann U: Medizinische Mikrobiologie und Infektiologie. Springer-Verlag Berlin, Heidelberg, New York. 1999; 3. Auflage, S. 20, 37, 38, 177, 892, 893, 895.
36. Sommerville DA, Noble WC: Microcolony size of microbes on human skin. *J Med Microbiol.* 1973; 6: 323-328.
37. Röckl H, Müller E: Beitrag zur Lokalisation der Mikroben der Haut. *Archiv für klinische u. experimentelle Dermatologie.* 1959; 209: 13-29.
38. Hadaway LC: Skin flora and infection. *J Infus Nurs.* 2003; 26(1): 44-48.
39. Bibel DJ, Lovell DJ: Skin flora maps. A tool in the study of cutaneous ecolgy. *J Invest Dermatol.* 1976; 67(2): 265-269.
40. Korting HC, Lukacs A, Braun-Falco O: Mikrobielle Flora und Geruch der gesunden menschlichen Haut. *Hautarzt.* 1988; 39: 564-568.
41. Marples RR, Fulton JE, Leyden J, et al.: Effect of antibiotics on the nasal flora in acne patients. *Arch Dermatol.* 1969; 99: 647-651.
42. James WD, Leyden JJ: Treatment of gram-negative folliculitis with isotretinoin wisely. Positive clinical and microbiologic response. *J Am Acad Dermatol.* 1985; 12: 319-324.
43. Wolff HH, Plewig G: Ultrastruktur der Mikroflora in Follikeln und Komedonen. *Der Hautarzt.* 1976;27: 432-440.
44. Hartmann AA, Pietzsch C, Elsner P, Lange T, Hackel H, Fischer P, Bertelt T: Antibacterial efficacy of Fabry's tinctura on the resident flora of the skin at the forehead. Study of bacterial population dynamics in stratum corneum and infundibulum after single and repeated applications. *Zentralbl Bakteriol Mikrobiol Hyg [B].* 1986; 182(5-6): 499-514.

45. Leeming JP, Holland KT, Cunliffe WJ: The microbial ecology of pilosebaceous units isolated from human skin. *Journal of General Microbiology*. 1984; 130: 803-807.
46. Puhvel SM, Reisner RM, Amirian DA: Quantification of bacteria in isolated pilosebaceous follicles in normal skin. *J Invest Dermatol*. 1975; 65(6): 525-531.
47. Williamson P, Kligman AM: A new method for the quantitative investigation of cutaneous bacteria. *J Invest Dermatol*. 1965; 45(6): 498-503.
48. Staal EM, Noordzij AC: A new method for the quantitative determination of micro-organisms on human skin. *J Soc Cosmet Chem*. 1978; 29: 607-615.
49. Thran V: Mikrobiologische Untersuchung von Oberflächen – ein Probeabnahmegerät. *Fleischwirtschaft*. 1979; 59: 950-953.
50. Hartmann AA: A comparative investigation of methods for sampling skin flora. *Arch dermatol Res*. 1982; 274: 381-385.
51. Holland KT et al.: A technique for sampling Micro-organisms from the Pilo-sebaceous Ducts. *J appl Bact*. 1974; 37:289-296.
52. Leyden JJ, McGinley KJ, Nordstrom KM, Webster GF: Skin microflora. *J Invest Dermatol*. 1987; 88: 65s-72s.
53. Aly R: Effect of occlusion on microbial population and physical skin conditions. *Semin Dermatol*. 1982; 1: 137-142.
54. Thews G, Vaupel P: Vegetative Physiologie. Springer Verlag Berlin, Heidelberg, New York. 1997; 3. Auflage, S. 3, 310, 315.
55. Potts RO and Francoeur ML: The influencr of stratum corneum morpholgy on water permeability. *J Invest Dermatol*. 1991; 96: 495-499.
56. Lampe MA, Burlingame AL, Whitney J, Williams ML, Brown BE, Roitman E, Elias PM: Human stratum corneum lipids. Characterization and regional variations. *J Lipid Res*. 1983a; 24: 120-130.

57. Lampe MA, Williams ML, Elias PM: Human epidermal lipids. Characterization and modulations during differentiation. *J Lipid Res.* 1983b; 24: 131-140.
58. Proksch E, Holleran WM, Menon GK, Elias PM, Feingold KR: Barrier function regulates epidermal lipid and DNA synthesis. *Br J Dermatol.* 1993; 128: 473-482.
59. Wertz PW, Downing DT: Glycolipids in mammalian epidermis. Structure and function in the water barrier. *Science.* 1982; 217: 1261-1262.
60. Korting HC, Sterry W: Diagnostische Verfahren in der Dermatologie. Blackwell Wissenschafts-Verlag, Berlin, Wien. 1997; S. 65-77.
61. Pinnagoda J, Tupker RA, Agner T, Serup J: Guidelines for transepidermal water loss (TEWL) measurement. *Contact Dermatitis.* 1990; 22: 164-178.
62. Bedienungsanleitung und Information zum TEWAMETER TM 210[®], COURAGE + KHAZAKA electronic GmbH, Köln, Germany.
63. Rippke F, Schreiner V, Schwanitz HJ: The acid milieu of the horny layer. New findings on the physiology and pathophysiology of skin pH. *Am J Clin Dermatol.* 2002; 3(4): 261-272.
64. Locher G: Permeabilitätsprüfung der Haut Ekzemkranker und Hautgesunder für den neuen Indikator Nitrazingelb “Geigy”, Modifizierung der Alkaliresistenzprobe, pH-Verlauf in der Tiefe des Stratum corneum. *Dermatologica.* 1961; 124: 159-182.
65. Öhmann H, Vahlquist A: In vivo studies concerning a pH gradient in human stratum corneum and upper epidermis. *Acta Derm Venereol (Stockh).* 1994; 74: 375-379.
67. Korting HC, Kober M, Mueller M, et al.: Influence of repeated washings with soap and synthetic detergents on pH and resident flora of the skin of forehead and forearm. *Acta Derm Venereol.* 1987; 67: 41-47.

68. Weigmann HJ, Lademann J, v. Pelchrzim R, Sterry W, Hagemeister T, Molzahn R, Schaefer M, Linscheid M, Schaefer H, Shah VP: Determination of the bioavailability of clobetasol propionate-quantification of the drug content in stratum corneum by dermatopharmakokinetics using tape stripping and HPLC. Skin Pharmacol. 1999; 12: 46-53.
69. Surber C, Schwab FB, Smith EW: Tape stripping technique; in Bronough H, Maibach H (eds): Percutaneous Absorption: Drugs, Cosmetics, Mechanism, Methodology, ed 3. New York, Dekker, 1999 pp 395-409.
70. Pinkus H: Examination of the Epidermis by the strip method of removing horny layers. I. Observation on thickness of horny layer, and on mitotic activity after stripping. J Invest Dermatol. 1951; 16(6): 383-386.
71. Rougier A, Lotte C, Maibach HI: In vivo percutaneous penetration of some organic compounds related to anatomic site in humans. Predictive assessment by the stripping method. J Pharm Sci. 1987; 76(6): 451-454.
72. Wolf J: Die innere Struktur der Zellen des Stratum desquamans der menschlichen Epidermis. Z Mikr Anat Forsch. 1939 ; 46 : 170-185 .
73. Leone R: Bacterial contents of the horny layers of the skin. Minerva Dermatol. 1957; 32: 4-7.
74. Keddi F, Orr A, Liebes D: Direct staining on vinyl plastic tape. Demonstration of the cutaneous flora of the epidermis by the strip method. Sabouraudia. 1961; 1: 108-111.
75. Weigmann HJ, Lademann J, Meffert H, Schaefer H, Sterry W: Determination of the horny layer profile by tape stripping in combination with optical spectroscopy in the visible range as a prerequisite to quantify percutaneous absorption. Skin Pharmacol. 1999; 12: 34-45.
76. Hof H, Dörries R: MLP – Duale Reihe, Medizinische Mikrobiologie. Georg Thieme Verlag. 2005; 3. Auflage, S. 33, 681.

77. Hoffmann-La Roche AG: Roche-Lexikon Medizin. Urban und Schwarzenberg. 1987; 2. Auflage, S. 30-31; 1336.
78. Schülerduden: Die Chemie. Mannheim; Wien; Zürich: Dudenverlag. 1988; 2. Auflage, S. 298.
79. Denk H, Künzle H, Plenk H jr., Rüschoff J, Sellner W: Romeis Mikroskopische Technik. Urban und Schwarzenberg. München, Wien, Baltimore. 1989; S.88.
80. Herrmann F, Prose PH, Sulzberger MB: Studies on the ether-soluble substances on the human skin. III. The effect of sweat on the quantity of ether-soluble substances on the skin. *J Invest Dermatol.* 1953; 21(6): 397-417.
81. Falbe J, Regitz M: Römpf Chemie Lexikon. Georg Thieme Verlag. Stuttgart, New York. 1995.
82. Golschmidt H, Kligman AM: Exfoliative cytology of human horny layer. Methodes of cell removal and microscopic techniques. *Arch Dermatol.* 1967; 96(5): 572-576.
83. Marks D, Dawber RPR: In situ microbiology of the stratum corneum. An application of skin surface biopsy. *Arch Derm.* 1972; 105: 216-221.
84. Holmes RL, Williams M, Cuncliffe WJ: Pilo-sebaceous duct obstruction and acne. *Br J Dermatol.* 1972; 87: 327-332.
85. Mills OH, Kligman AM: The follicular biopsy. *Dermatologica.* 1983; 167: 57-63.
86. Weigmann HJ, Lindemann U, Antoniou C, Tsikrikas GN, Stratigos AI, Katsambas A, Sterry W, Lademann J: UV/VIS Absorbance Allows Rapid, Accurate and Reproducible Mass Determination of Corneocytes Removed by Tape Stripping. *Skin Pharmakol Appl Skin Physiol.* 2003; 16: 217-227.
87. Alberti I, Kala YN, Naik A, Bonny J-D, Guy RH: In vivo assessment of enhanced topical delivery of terbinafine to human stratum corneum. *Journal of Controlled Release.* 2001; 71: 319-327.

88. Jacobi U, Kaiser M, Richter H, Audring H, Sterry W, Lademann J: The number of stratum corneum cell layers correlates with the pseudo-absorption of the corneocytes. *Skin Pharmacol Physiol.* 2005; 18(4): 175-179.
89. Institut für Mikrobiologie und Hygiene, Institut für Virologie: Skript für das Praktikum der Mikrobiologie und Immunologie. Universitätsklinikum Charité, Medizinische Fakultät der Humboldt-Universität zu Berlin, Campus Charité Mitte. 2001, S. 41, 42, 50.
90. http://courses.ag.uidaho.edu/fst/fstmmbb417/api_staph.pdf.
91. Marples RR: Sex, Constancy and Skin Bacteria. *Arch Dermatol Res.* 1982; 272: 317-320.
92. Aly R, Shirley C, Cunico B, Maibach HI: Effect of prolonged occlusion on the Microbial Flora, pH, Carbon, Dioxide and Transepidermal Water Loss on Human Skin. *J Invest Dermatol.* 1978; 71: 378-381.
93. Rebel G, Pillsbury DM, Phalle G, et al.: Factors affecting the rapid disappearance of bacteria placed on the normal skin. *J Invest Dermatol.* 1950; 14: 247-263.
94. Elias PM: Structure and function of the stratum corneum permeability barrier. *Drug Dev Res.* 1988; 13: 97-105.
95. Wilhelm KP, Cua AB, Maibach HI: Skin aging. Effect on Transepidermal Water Loss, Stratum Corneum Hydration, Skin Surface pH and Casual Sebum Content. *Arch Dermatol.* 1991; 127: 1806-1809.
96. Yosipovitch G, Xiong GL, Haus E, Sackett-Lundeen L, Ashkenazi I, Maibach HI: Time-dependent variations of the skin barrier function in humans. Transepidermal water loss, stratum corneum hydration, skin surface ph and skin temperature. *J Invest Dermatol.* 1998; 110: 20-23.
97. Duncan WC, McBride ME, Knox JM: Bacterial flora. The role of environmental factors. *J Invest Dermatol.* 1969; 52: 479-484.
98. Dikstein S, Zlotogorski A: Measurement of skin pH. *Acta Derm Venereol.* 1994; 185 (Suppl.): 18-20.

99. Hartmann AA: Effect of Occlusion on resident flora, skin-moisture and skin-pH. Arch Dermatol Res. 1983; 275: 251-254.
100. Cua A, Wilhelm KP, Maibach HI: Skin surface lipid and skin friction. Relation to age, sex and anatomical region. Skin Pharmacol. 1995; 8: 246-251.
101. Nielsen ML, Raahave D, Stage JG, Justesen T: Anaerobic and aerobic skin bacteria before and after skin-disinfection with chlorhexidine. An experimental study in volunteers. J clin Path. 1975; 28: 793-797.
102. Evans CA, Crook JR, Strom MS: The bacterial flora of the forehead and back of Alaska native villagers in summer and in winter. J Invest Dermatol. 1984; 82: 294-297.
103. Beetz HM: Depth distribution of skin bacteria in the stratum corneum. Arch Dermatol Forsch. 1972; 244: 76-80.
104. Woodroffe RCS, Shaw DA: Naturaly Control and Ecology of Microbial Populations on Skin and Hair. Society for Applied Bacteriology symposium series. 1974; 3(0): 13-34.
105. Brandberg A, Andersson I: Preoperative whole body disinfection by shower bath with chlorhexidine soap. Effect on transmission of bacteria from skin flora. In: Maibach H, Aly R, eds. Skin microbiology: relevance to clinical infection. Springer-Verlag New York. 1981; 92-97.
106. Bashir SJ, Chew A-L, Anigbogu A, Dreher F, Maibach HI: Physical and physiological effects of stratum corneum tape stripping. Skin Res Techno. 2001; 7: 40-48.
107. Stinchcomb AL, Pirot F, Touraille GD, Bunge AL, Guy RH: Chemical uptake into human stratum corneum in vivo from volatile and non-volatile solvents. Pharm Res. 1999; 16(8): 1288-1293.
108. Shah VP: Progress in Methodologies for Evaluating Bioequivalence of Topical Formulations. Am J Clin Dermatol. 2001; 2(5): 275-280.
109. Higo N, Naik A, Bommannan DB, Potts RO, Guy RH: Validation of Reflenctance Infrared Spectroscopy as a Quantitative Method to Measure Percutaneous Absorption in vivo. Pharm Res. 1993; 10(10): 1500-6.

110. Zhai H, Problete N, Maibach HI: Stripped skin model to predict irritation potential agents in vivo in humans. *Int J Dermatol.* 1998; 37: 386-389.
111. Hendley JO, Ashe KM: Eradication of resident bacteria of normal human skin by antibacterial ointment. *Antimicrb Agents Chemother.* 2003; 47(6): 1988-1990.