Ressources

6.1 Articles given as starting point :

gha, R. et al., "A review of the role of mechanical forces in cutaneous wound healing." Journal of Surgical Research, 171(2), pp.700–708. 2011.

Armstrong, D.G. et al., "Principles of best diagnostic practice in tissue repair and wound healing: An expert consensus." Diagnostics, 11(1). 2021.

Avery, L.A.A.L., "Home Monitoring of Foot Skin.", 27(11). 2004.

Bishop, S.M. et al., "Importance of moisture balance at the wound-dressing interface." Journal of wound care, 12(4), pp.125–128. 2003.

Bjarnsholt, T. et al., "Why chronic wounds will not heal: A novel hypothesis." Wound Repair and Regeneration, 16(1), pp.2–10. 2008.

Bowler, P.G., Duerden, B.I. & Armstrong, D.G., "Wound microbiology and associated approaches to wound management." Clinical Microbiology Reviews, 14(2), pp.244–269. 2001.

Boykin, J. V., "Wound Nitric Oxide Bioactivity." Journal of Wound, Ostomy & Continence Nursing, 37(1), pp.25–32. 2010.

Brem, H. et al., "Cholinergic Anti-Inflammatory Pathway Activity and High High Mobility Group Box-1 (HMGB1) Serum Levels in Patients with Rheumatoid Arthritis." Molecular Medicine, 13(9), pp.30–39. 2007.

Caley, M.P., Martins, V.L.C. & O'Toole, E.A., "Metalloproteinases and Wound Healing." Advances in Wound Care, 4(4), pp.225–234. 2015.

Castilla, D.M., Liu, Z. & Velazquez, O.C., "Oxygen: Implications for Wound Healing." Advances in Wound Care, 1(6), pp.225–230. 2012.

- CK, S. et al., "Human Skin Wounds: A Major and Snowballing Threat to Public Health and the Economy." Wound Repair Regen, 17(6), pp.763–71. 2009.
- Davis, S.C. et al., "Microscopic and physiologic evidence for biofilm-associated wound colonization in vivo." Wound Repair and Regeneration, 16(1), pp.23–29. 2008.
- Efron, D.T., Most, D. & Barbul, A., "Role of nitric oxide in wound healing." Current Opinion in Clinical Nutrition and Metabolic Care, 3(3), pp.197–204. 2000.
- Eming, S.A. et al., "Differential proteomic analysis distinguishes tissue repair biomarker signatures in wound exudates obtained from normal healing and chronic wounds." Journal of Proteome Research, 9(9), pp.4758–4766. 2010.
- Eming, S.A., Martin, P. & Marjana, T.-C., "Wound repair and regeneration: mechanisms, signaling, and translation." Sci Transl Med, 6. 2014.
- Fernandez, M.L. et al., "Elevated uric acid correlates with wound severity." International Wound Journal, 9(2), pp.139–149. 2012.
- Fernandez, M.L., Upton, Z. & Shooter, G.K., "Uric acid and xanthine oxidoreductase in wound healing." Current Rheumatology Reports, 16(2), pp.1–7. 2014.
- Gamerith, C. et al., "pH-responsive materials for optical monitoring of wound status." Sensors and Actuators, B: Chemical, 301(January), p.126966. 2019.
- Greener, B. et al., "Proteases and pH in chronic wounds." Journal of wound care, 14(2), pp.59–61. 2005.
- Han, G. & Ceilley, R., "Chronic Wound Healing: A Review of Current Management and Treatments." Advances in Therapy, 34(3), pp.599–610. 2017.
- Harjai, K. et al., "Effect of pH on production of virulence factors by biofilm cells of Pseudomonas aeruginosa." Folia Microbiologica, 50(2), pp.99–102. 2005.
- Hoštacká, A., Čižnár, I. & Štefkovičová, M., "Temperature and pH affect the production of bacterial biofilm." Folia Microbiologica, 55(1), pp.75–78. 2010.

Hunt, T.K. & Hopf, H.W., "Wound healing and wound infection: What surgeons and anesthesiologists can do." Surgical Clinics of North America, 77(3), pp.587–606. 1997.

Jonkman, M.F. et al., "Poly(ether urethane) wound covering with high water vapour permeability compared with conventional tulle gras on split-skin donor sites." Burns, 15(4), pp.211–216. 1989.

Kumaran, D. et al., "Structure of staphylococcal enterotoxin C2 at various pH levels." Acta Crystallographica Section D: Biological Crystallography, 57(9), pp.1270–1275. 2001.

Kurabayashi, H. et al., "Inhibiting bacteria and skin pH in hemiplegia: Effects of washing hands with acidic mineral water." American Journal of Physical Medicine and Rehabilitation, 81(1), pp.40–46. 2002.

Leal-Junior, A. et al., "Photonic smart bandage for wound healing assessment." Photonics Research, 9(3), p.272. 2021.

Maiuolo, J. et al., "Regulation of uric acid metabolism and excretion." International Journal of Cardiology, 213, pp.8–14. 2016.

McCarty, S.M. & Percival, S.L., "Proteases and Delayed Wound Healing." Advances in Wound Care, 2(8), pp.438–447. 2013.

Mehmood, N. et al., "Applications of modern sensors and wireless technology in effective wound management." Journal of Biomedical Materials Research - Part B Applied Biomaterials, 102(4), pp.885–895. 2014.

Metcalf, D.G. et al., "Elevated wound fluid pH correlates with increased risk of wound infection." Wound Medicine, 26(1), p.100166. 2019.

Mi, Q. et al., "Agent-based model of inflammation and wound healing: Insights into diabetic foot ulcer pathology and the role of transforming growth factor- β 1." Wound Repair and Regeneration, 15(5), pp.671–682. 2007.

Nagoba, B. et al., "Citric Acid Treatment of Surgical Site Infections: A Prospective Open Study." Wound Practice & Research: Journal of the Australian Wound Management Association, 19(2), pp.82–86. 2011.

Naomi J Trengove, Langton, S.R. & Stacey, M.C., "Biochemical analysis of wound fluid from

nonhealing and healing chronic leg ulcers." Wound Repair and Regeneration, 4(2), pp.234–239. 1996.

O'Meara, S. et al., "Systematic reviews of wound care management." Health Technology Assessment, 4(21). 2000.

Ono, S. et al., "Increased wound pH as an indicator of local wound infection in second degree burns." Burns, 41(4), pp.820–824. 2015.

Panzarasa, G. et al., "The pyranine-benzalkonium ion pair : A promising fluorescent system for the ratiometric detection of wound pH." Sensors and Actuators, B: Chemical, 249, pp.156–160. 2017.

Percival, S.L. et al., "Antiseptics for treating infected wounds: Efficacy on biofilms and effect of pH." Critical Reviews in Microbiology, 42(2), pp.293–309. 2016.

Percival, S.L. et al., "The effects of pH on wound healing, biofilms, and antimicrobial efficacy." Wound repair and regeneration: official publication of the Wound Healing Society [and] the European Tissue Repair Society, 22(2), pp.174–186. 2014.

Power, G., Moore, Z. & O'Connor, T., "Measurement of pH, exudate composition and temperature in wound healing: A systematic review." Journal of Wound Care, 26(7), pp.381–397. 2017.

Pusta, A. et al., "Wearable sensors for the detection of biomarkers for wound infection." Biosensors, 12(1). 2022.

Rahimi, R. et al., "Highly Stretchable Potentiometric pH Sensor Fabricated via Laser Carbonization and Machining of Carbon-Polyaniline Composite." ACS Applied Materials and Interfaces, 9(10), pp.9015–9023. 2017.

Rizk, M., Witte, M.B. & Barbul, A., "Nitric Oxide and Wound Healing." World Journal of Surgery, 28(3), pp.301–306. 2004.

SCALES, J.T., "Wound healing and the dressing." British journal of industrial medicine, 20, pp.82–94. 1963.

Schneider, L.A. et al., "Influence of pH on wound-healing: A new perspective for wound-therapy?" Archives of Dermatological Research, 298(9), pp.413–420. 2007.

Schultz, G. et al., "Wound healing and TIME; new concepts and scientific applications." Wound Repair and Regeneration, 13(4 SUPPL.). 2005.

Serena, T.E. et al., "Defining a new diagnostic assessment parameter for wound care: Elevated protease activity, an indicator of nonhealing, for targeted protease-modulating treatment." Wound Repair and Regeneration, 24(3), pp.589–595. 2016.

Sibbald, R.G., Mufti, A. & Armstrong, D., "Infrared Skin Thermometry: An Underutilized Costeffective Tool for Routine Wound Care." Advances in skin & wound care, 28(1), pp.37–44. 2015.

Simoska, O., Duay, J. & Stevenson, K.J., "Electrochemical Detection of Multianalyte Biomarkers in Wound Healing Efficacy." ACS Sensors, 5(11), pp.3547–3557. 2020.

Singh, G. & Chanda, A., "Biomechanical modeling of progressive wound healing: A computational study." Biomedical Engineering Advances, 4(June), p.100055. 2022.

Urschel, J.D., Scott, P.G. & Williams, H.T.G., "The effect of mechanical stress on soft and hard tissue repair; a review." British Journal of Plastic Surgery, 41(2), pp.182–186. 1988.

Wlaschek, M. et al., "Protease inhibitors protect growth factor activity in chronic wounds." British Journal of Dermatology, 137(4), p.646. 1997.

Yager, D.R. et al., "Wound fluids from human pressure ulcers contain elevated matrix metalloproteinase levels and activity compared to surgical wound fluids." Journal of Investigative Dermatology, 107(5), pp.743–748. 1996.

Yang, P. et al., "Orange-Emissive Carbon Quantum Dots: Toward Application in Wound pH Monitoring Based on Colorimetric and Fluorescent Changing." Small, 15(44), pp.1–11. 2019.

6.2 Articles added:

Malone-Povolny MJ, Maloney SE, Schoenfisch MH. Nitric Oxide Therapy for Diabetic Wound Healing. Adv Healthc Mater. 2019 Jun;8(12):e1801210. doi:10.1002/adhm.201801210. Epub 2019 Jan 15. PMID:30645055; PMCID: PMC6774257.

Kobayashi Y. The regulatory role of nitric oxide in proinflammatory cytokine expression during the induction and resolution of inflammation. J Leukoc Biol. 2010 Dec;88(6):1157-62. doi:

10.1189/jlb.0310149. Epub 2010 Aug 31. PMID: 20807706.

Agyare, Christian & Osafo, Newman & Boakye, Yaw. (2018). Biomarkers of Wound Healing. 10.5772/intechopen.80222.

Atte Kekonen, Mikael Bergelin, Jan-Erik Eriksson, Annikki Vaalasti, Heimo Ylänen, Sami Kielosto, Jari Viik, Bioimpedance method for monitoring venous ulcers: Clinical proof-of-concept study, Biosensors and Bioelectronics, Volume 178, 2021, 112974, ISSN 0956-5663, https://doi.org/10.1016/j.bios.2021.112974.

Sharifuzzaman M, Chhetry A, Zahed MA, Yoon SH, Park CI, Zhang S, Chandra Barman S, Sharma S, Yoon H, Park JY. Smart bandage with integrated multifunctional sensors based on MXene-functionalized porous graphene scaffold for chronic wound care management. Biosens Bioelectron. 2020 Dec 1;169:112637. doi: 10.1016/j.bios.2020.112637. Epub 2020 Sep 23. PMID: 33007617.

Jiang, Y., Trotsyuk, A.A., Niu, S. et al. Wireless, closed-loop, smart bandage with integrated sensors and stimulators for advanced wound care and accelerated healing. Nat Biotechnol (2022). https://doi.org/10.1038/s41587-022-01528-3

Pusta, A.; Tertiș, M.; Cristea, C.; Mirel, S. Wearable Sensors for the Detection of Biomarkers for Wound Infection. Biosensors 2022, 12, 1. https://doi.org/10.3390/bios12010001

Petar Kassal, Jayoung Kim, Rajan Kumar, William R. de Araujo, Ivana Murković Steinberg, Matthew D. Steinberg, Joseph Wang, Smart bandage with wireless connectivity for uric acid biosensing as an indicator of wound status, Electrochemistry Communications, Volume 56, 2015, Pages 6-10, ISSN 1388-2481, https://doi.org/10.1016/j.elecom.2015.03.018.

Hossein Derakhshandeh, Sara Saheb Kashaf, Fariba Aghabaglou, Ian O. Ghanavati, Ali Tamayol, Smart Bandages: The Future of Wound Care, Trends in Biotechnology, Volume 36, Issue 12, 2018, Pages 1259-1274, ISSN 0167-7799, https://doi.org/10.1016/j.tibtech.2018.07.007.

6.3 Additional ressources:

SPARKFUN (2022). « SparkFun MAX301x Particle Sensor Library ». In : GitHub. URL : https : //github.com/sparkfun/SparkFun_MAX3010x_Sensor_Library.