

## Abstract

### Management hard to heal wound with advanced technology for effectiveness to patient and quality of life.

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Chronic wounds or hard to heal wounds are a major health challenge and growing socioeconomic problem all over the world<sup>1</sup>. Biofilm is a complex polymicrobial community of microorganisms embedded in a predominantly extracellular polymeric substance that protects the microbes from antimicrobial activity affect to slow tissue repair<sup>2</sup>. Patients with chronic wounds suffer increased morbidity and decreased quality of life. Currently, hard to heal wound are treated using a multistep approach known as “TIMERS”<sup>3</sup>. In Advance Wound Care Clinic (AWC), implement with high technology for effectiveness and high quality of care.

Case studies: 1<sup>st</sup> case, male 49 years-old, Spinal cord injury T12 level Asia A underlying DM, HT, LDL with Pressure Injury Stage 4 at coccyx. 2<sup>nd</sup> case, female 29 years-old, Traumatic brain injury, malnutrition, anemia with Pressure injury unstageable at sacral area. The last case, female 79 years-old, underlying rheumatoid arthritis, HT, CKD, Vit D insufficiency. S/P Lt. ankle replacement, Dx. Prosthetic joint infection at Lt. ankle, flap coverage failed, expose tendon at Lt. ankle.

After data and wound assessment, we were start follow concept TIMERS<sup>3</sup> with wound cleansing, debridement necrotic tissue or slough, infection control and moisture balance with antimicrobial 0.1% Polyhexamethylene biguanide and 0.1% Betaine solution and gel, Blue nano silver hydrogel and Biocellulose. Inhibits microbes with Bioplasma for while promote healing by stimulation of cell proliferation and migration of wound relating skin cells<sup>4</sup>. Repair, regeneration with Negative Pressure Wound Therapy, topical oxygen therapy (hemoglobin spray), Platelet Rich Plasma (PRP) and Edge protection with skin barrier. Communication, consultation, social support, education depend on demand and training or control extrinsic factors with individual group Line. Consult multidisciplinary team for training off-load or treatment, improve depress, anxiety and financial. Evaluate progression every 2 weeks, the average of wound area decreases 16.63%, 26.46% and 33.27% and granulation tissue growth were 11.20%, 25.76% and 8.49% respectively. Patients’ quality of life (QOL) that improve from moderate to good and no depression that evaluate by WHOQOL-BREF-Thai and 2Q depression screening. We are learned about effective outcome and cost of care when used holistic approach and used advance technology in appropriate time.

## References

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