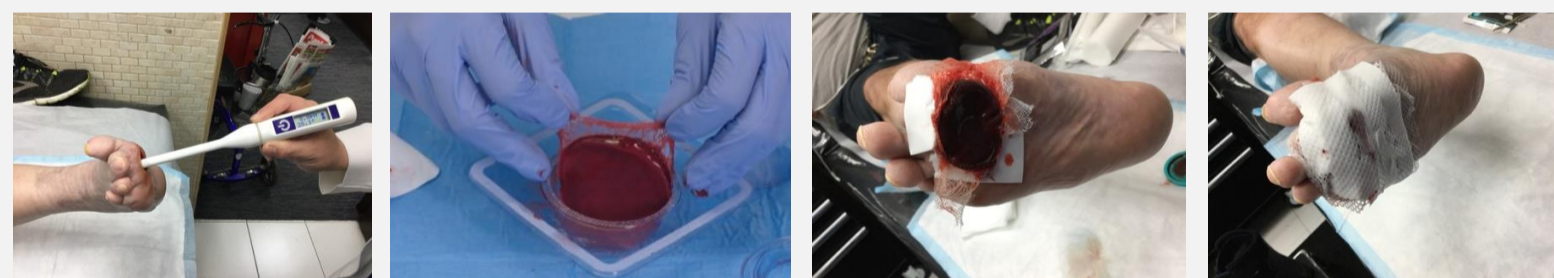


Background and Aims

The contributing elements affecting the healing process directly or indirectly vary from one individual to the next¹. The lack of quantifiable evidence can lead to expensive complications and extended healing times. Patients with chronic non-healing wounds were treated with an autologous wound matrix (AWM) and the results recorded. The AWM is created by drawing the patient's blood at the point of care, with the use of citrate anticoagulant. The clotting cascade is reinitiated and promoted by mixing the blood with calcium gluconate plus a proprietary kaolin powder suspension. Within minutes, the blood clot product is formed and applied to the wound to serve as a functional, natural ECM for the wound healing process.

Methods

Blood from each patient was extracted, mixed with a suspension of calcium gluconate/kaolin and injected into a coagulation tray. Within 10 minutes a clot was formed, placed on the wound and fixed with primary and secondary dressings². The Snapshot NIR device was used to measure the tissue at the base of the wound and peri-wound area including $S_tO_2\%$, Hb, HbO_2 and tHb. The Wound pH Meter TR26 was used to measure pH and temperature of the wound base. 3 patients with chronic ulcers were treated with the AWM X 3 (once every 7 days) and measurements were taken with the devices before and during treatment.



Results

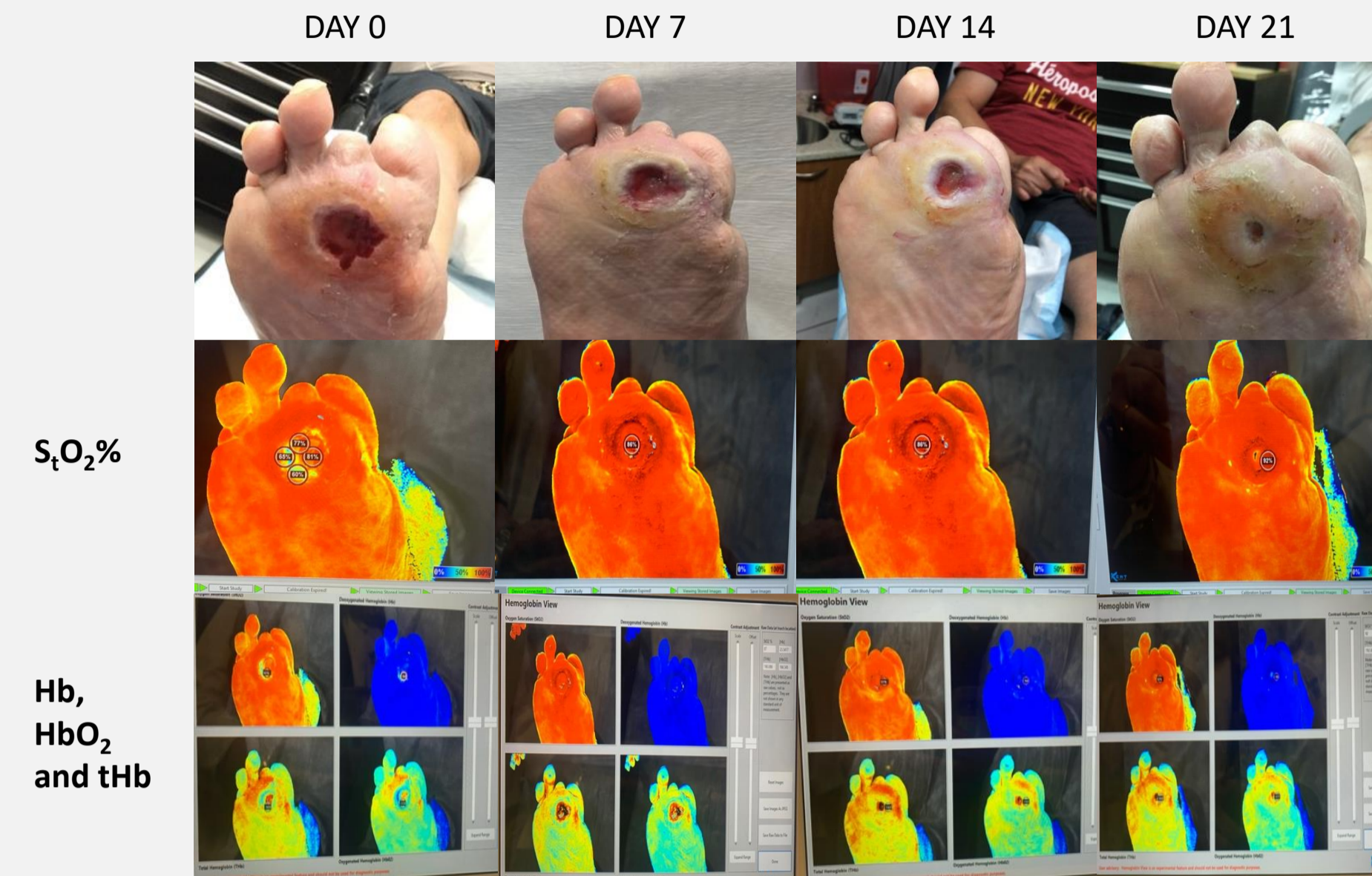
A reduction in the lesion size, pain and exudate was observed. Quantitatively an increase in $S_tO_2\%$, HbO_2 and tHb, and a decrease in Hb was observed confirming that increases angiogenesis, increasing the healing process in less time. The sampling of the pH confirms that the procedure lowers the pH, achieving an optimal pH between 7.2 and 7.6, thus facilitating the migration of fibroblasts and keratinocytes, thus producing a faster closure.

Conclusion

The qualitative and quantitative results confirmed an improvement in healing in the chronic wounds after the first application of the AWC.

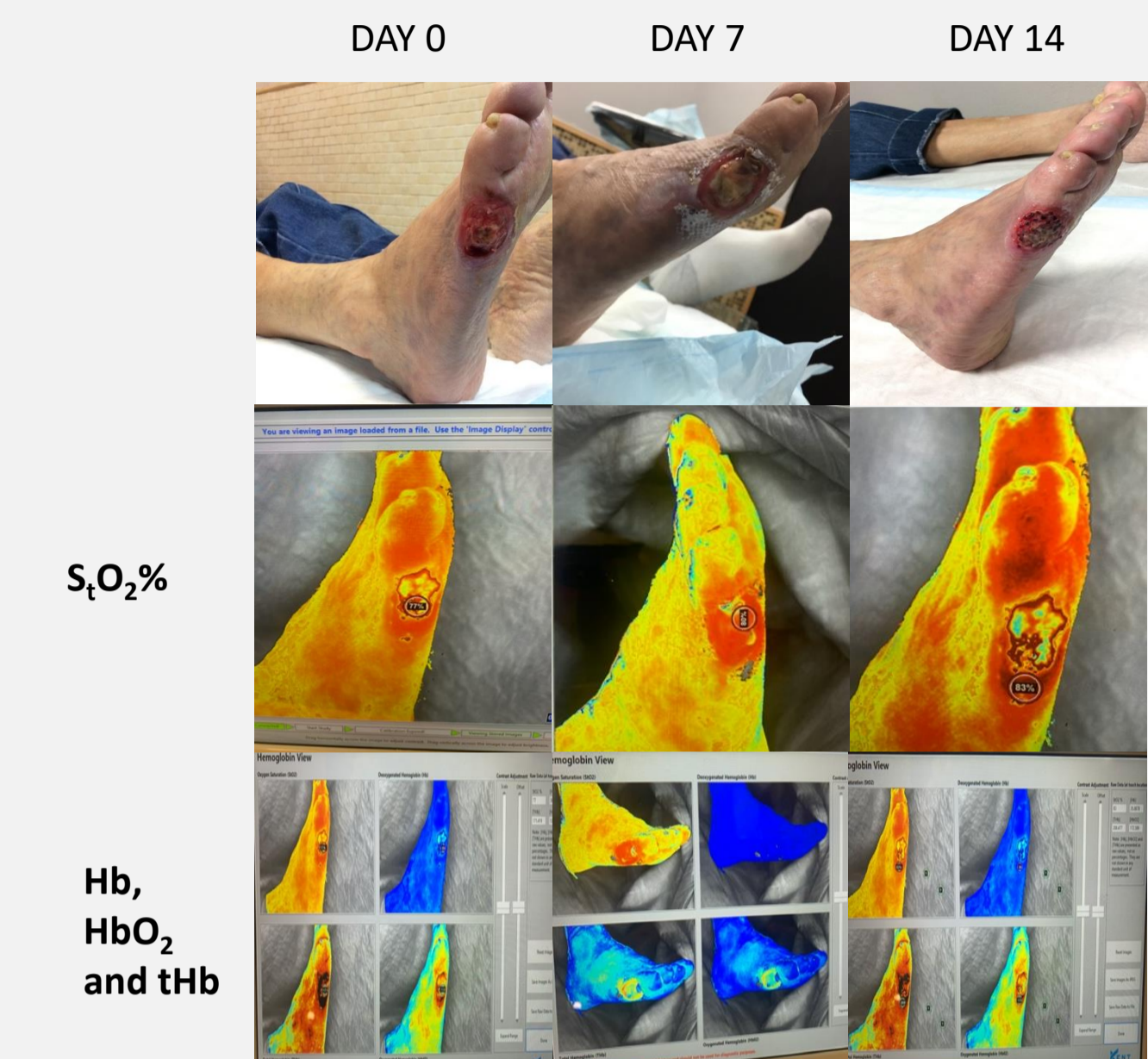
*RD1 (RedDress Ltd, Padres-Hanna, Israel)

PATIENT 1: DFU



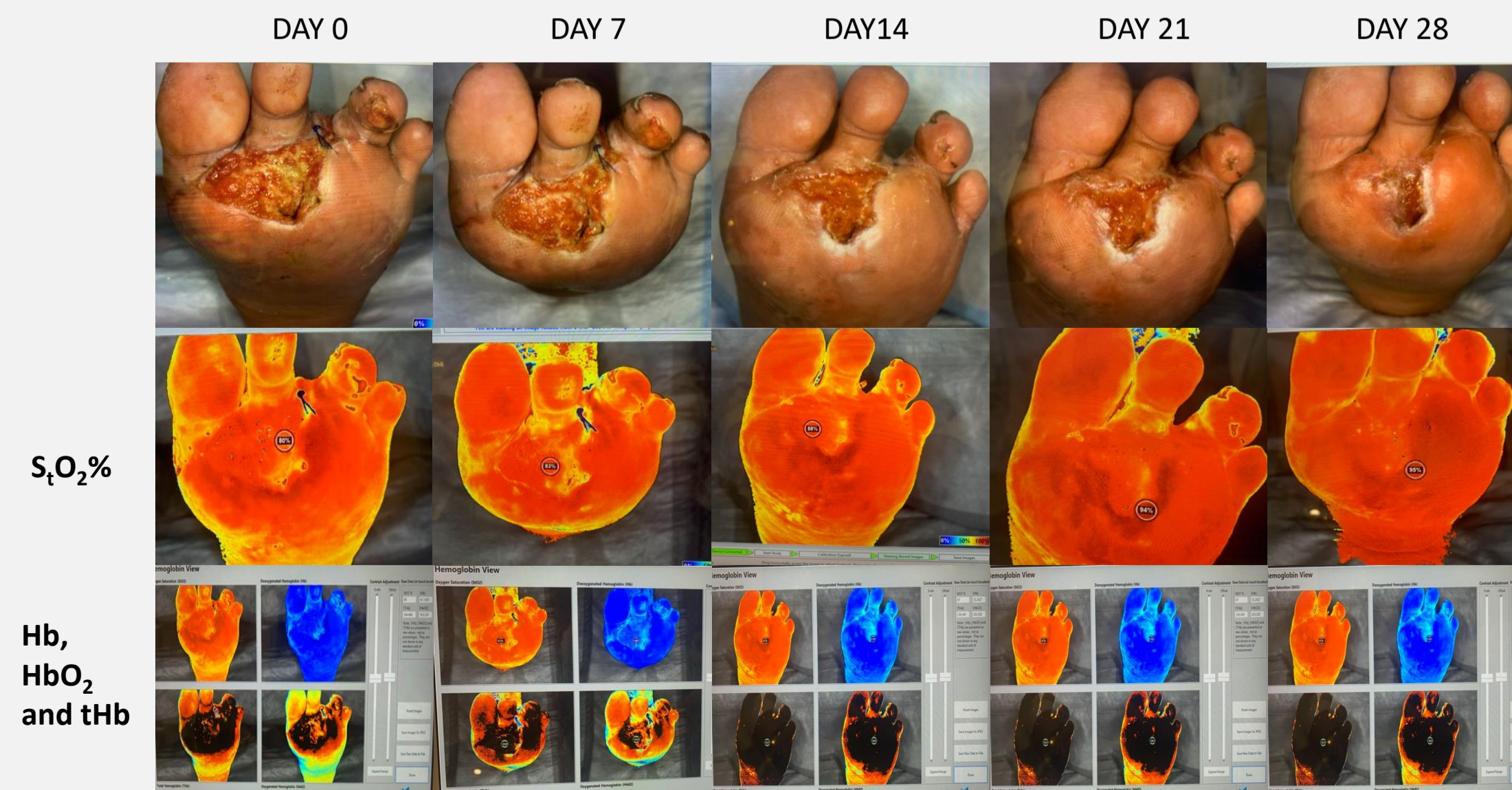
Day	Application #	Ph	StO2%	Hb	tHb	HbO2
0	1	8	66%	54.39	168.9	114.55
7	2	7.4	87%	23.54	190.1	166.54
14	3	7.3	91%	14.04	166.4	152.4
21	Evaluation	7.9	92%	14.7	192.1	177.3

PATIENT 2: DFU



Day	Application #	Ph	StO2%	Hb	tHb	HbO2
0	1	8.9	77	39.3	171.4	132.07
7	2	7.9	81	29.8	165.8	136
14	Evaluation	7.6	83	35.8	208.4	172.5

PATIENT 3: DFU



Day	Application #	Ph	StO2%	Hb	tHb	HbO2
0	1	8.2	80	41.1	204.4	163.3
7	2	7.4	83	39.8	243.8	203.9
14	3	7.6	87	33.2	236.5	203.3
21	4	7.8	94	11.7	207.8	196
28	Evaluation	8	95	13.3	248.3	235

References

1. Vallejo, L. Seven Mistakes Most Common Diagnosis, Management and Treatment of chronic wounds. J. of Wound Care / Latin America Special Ed. 2019; 1 (1): S7-S10.
2. Kushnir I, et al. Efficacy and safety of a new wound matrix autologous treating complicated and chronic wounds: a pilot study. Wounds 2016; 28 (9): 317-327.
3. K. M. Cross, et al. Noninvasive Measurement of Edema in Partial Thickness Burn Wounds. Wound Repair Regen. 15(3), 332-340 (2007)