

# Use of an Advanced Collagen Powder to Close Non-healing Post-amputation Wounds

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# Introduction

Chronic wounds are a significant health issue that impact millions of patients each year by adding to overall patient morbidity as well as to reducing quality of life. Treatment strategies and new technologies that can enhance the healing rates of stalled wounds have the potential to lessen the burden that chronic wounds place on patients and healthcare providers as well as reducing healthcare costs.

# Patient History

An 83-year-old male with a history of peripheral arterial disease was referred on April 16th 2021 for the management of gangrenous digits on the right foot following the repair of a dissecting aneurysm of the ascending thoracic aorta. A diagnosis of Blue Toe Syndrome or occlusive vasculopathy secondary to shower emboli was made and conservative management of the gangrenous digits continued. Due to his peripheral arterial disease, the patient was closely monitored for the need for a transmetatarsal amputation. The right 3rd digit was partially amputated one month later, followed by the 2nd and 4th digits approximately 3 weeks later (Fig 2). All partial amputations resulted in non-healing wounds.

Fig 1. Initial Presentation



Fig 2. Following Partial Amputation



Fig 3. Delayed Healing Wounds



Fig 4. Delayed Healing Cont.



Fig 5. Wound Closure Achieved



Lavage & ColActive Plus Powder

3 months non-healing, treatment with Collagen/ORC dressing

Wound Closure using Pulse

~1 month conservative management / amputationn

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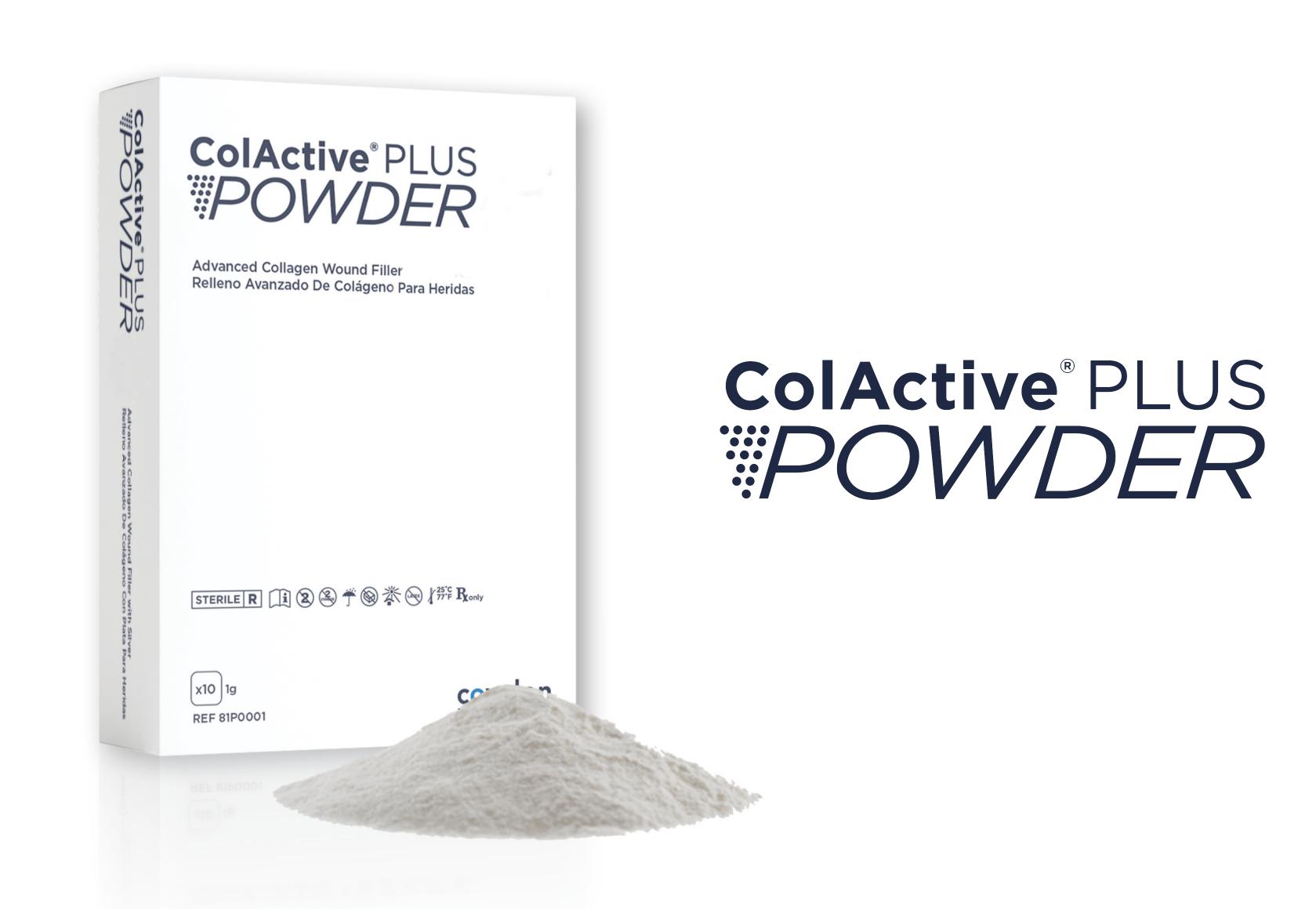


Fig 6. ColActive Plus® Powder (Covalon Technologies LTD., Mississauga, ON, Canada) in individual packaging.

#### Treatment

Following amputation, healing of the 2nd and 3rd digit sites failed to progress over several months with the use of a collagen/ORC (Oxidized Regenerated Cellulose) dressing (Fig 3). Following a failed delayed primary closure attempt, the wounds were treated weekly with pulse lavage therapy and weekly application of a novel collagen/ethylenendiaminetetraacetic (EDTA) powder product. Patient's wounds were closed 28 days later and have remained healed to date. ColActive Plus Powder (Fig 6) is a formulation of fast acting hydrolyzed collagen, including EDTA for protease inhibition, in addition to carboxymethylcellulose (CMC) and alginate which enhance absorbency and promote moisture balance.

# Conclusion

For this patient, the combination of pulse lavage cleansing and debridement, and the application of novel collagen/EDTA powder product initiated healing and lead to the cessation of chronicity, allowing for wound closure. Despite the challenging nature of this case and failed previous attempts at wound closure, use of the advanced collagen/EDTA formulation progressed healing rapidly. The product was simple to apply and implement as part of the patient's existing treatment schedule.

### References

Olsson M, Järbrink K, Divakar U, Bajpai R, Upton Z, Schmidtchen A, Car J. The humanistic and economic burden of chronic wounds: A systematic review. Wound Repair Regen. 2019 Jan;27(1):114-125



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