Introduction
Neuropathic foot ulcers are an expensive, and sometimes deadly, complication of diabetes. With rising costs and poor healing rates with standard of care, use of advanced wound care products such as amniotic membrane and umbilical cord have been utilized to expedite wound-healing rate. With the increasing number of advanced biologic skin grafts on the market, choosing the correct treatment for an individual patient is becoming more nuanced. One particular challenge is the use of biologic grafts on heavily exudative wounds, as frequent dressing changes disturb any superficial graft.

Patient History
A 53-year-old male with insulin-dependent diabetes mellitus (HbA1c 9.0), neuropathy, hypertension and dyslipidemia presented with neuropathic pressure ulcer to the left heel. The patient had a history of alcoholism and ½ pack per day smoking habit. The wound did not probe to bone, and radiographs ruled out osteomyelitis. The wound failed multiple past treatments including mechanical and enzymatic debridement, porcine small intestinal submucosa (SIS)-derived skin substitute, and total contact casting. Due to heavy drainage and the need for frequent dressing changes, standard wound grafts were not feasible.

Methods
This retrospective case report evaluates the efficacy of injected particulate Amniotic Membrane and Umbilical Cord (AM/UC)* matrix in treating a heavily exudative neuropathic ulcer.

Procedures
At weekly intervals, sharp mechanical debridement was performed. The wound was then cleansed with alcohol, followed by injection of particulate AM/UC mixed with 1% lidocaine. Lidocaine was chosen for its known vasodilatory attributes. The injection was performed from inside the wound bed into the dermal layer, so that any graft leaking from the needle site would stay within the wound. The wound was dressed with a non-adhering contact layer and absorbent, dry sterile dressings. The wound dressings were changed three days after each injection, and then daily until the next injection. Frequent dressing changes avoided periwound maceration and dressing malodor, allowing the patient to continue working.

Results
The surface area of the wound was reduced by 90% in the first 14 weeks of treatment with injectable Amniotic Membrane and Umbilical Cord and progressed to healing in 28 weeks. Frequent dressing changes avoided periwound maceration and dressing malodor, allowing the patient to continue working.

Conclusion
Particulate Amnestic Membrane and Umbilical Cord has demonstrated the ability to promote wound healing in an exudative and recalcitrant wound. Despite this patient’s continued weight-bearing and light duty work, his ulcer closed without complication.

*NEOX®FLO Particulate Amniotic Membrane and Umbilical Cord; Amniox Medical, Atlanta, GA