Initial WOC consult for 61-year-old female inpatient and post operative. She initially presented to the emergency department with complaints of abscess to left labia for one month in duration. She reported bloody purulent drainage and had excruciating lower abdominal pain at time of emergency department evaluation.

She is reported in the chart to be an uncontrolled diabetic for prior medical history and was reported to be using insulin daily as her only medication.

Social history is reported as she lives alone. Denies alcohol, tobacco, or illicit drug use.

CT findings had confirmed necrotizing fasciitis arising from the left labia majora extending along anterior and posterior aspects of the abdominal wall.

Surgical management was performed for a wide debridement of the necrotizing fasciitis. Debridement field included the skin, subcutaneous fat, and fascia leaving an extra-large wound to the left labia and groin area. Surgeon requested consultation and to evaluate if NPWT is appropriate.

Patient lying in bed post-surgery. She is awake and slightly febrile but groggy. VS and Braden scale noted. IV morphine administered 30 minutes prior to wound assessment. The patient agreed to allow WOC nurse to assess and dress wound.

Post operative moist saline dressing removed with exudate of small amount of serosanguinous drainage noted and no odor. L labial and perineal gluteal area of wounds noted as post operative surgical with extensive tissue loss of full thickness measuring 48 x 40.5 x 9.2 centimeters. Wound bed tissue noted as moist and pink with no exposed muscle or tendons at the wound base. Exudate is a small amount of serosanguinous drainage with no odor noted. No undermining or tunneling is noted. Wound edges are attached. Periwound skin is intact. She is rating her pain 10/10.
Wound bed cleansed with wound wash and gauze. Periwound skin treated with Cavilon and transparent dressing applied to periwound skin around wound bed in windowpane fashion and a tail bridge extending up to thigh where suction pad will be attached. Black foam applied to wound bed and extending tail of foam up to thigh for wound suction to be applied. Foam secured with transparent film. NPWT applied and continuous setting per facility policy and patient tolerance (125mmHg typical setting). Cavilon applied to thigh site for tube anchoring securement device. Vac tubing secured to inner thigh to reduce tension, leaks, and keep tubing away from surgical site and genitalia.
Patient tolerated procedure and WOC reported pain complaint to her unit nurse for evaluation of prn medications. Plan for NPWT foam and dressing to be changed every 72 hours and add topical lidocaine to orders for additional pain relief and patient comfort. Patient education planned with next WOC visit in 3 days when patient will be more alert for learning opportunity.

WOC Plan of Care:
Continue medical orders to monitor blood sugar levels and treat as ordered.
Ensure protein increased per nutrition consult and ensure patient PO dietary/fluid intake appropriate as expected.
Monitor NPWT twice a shift to ensure patience of suction and functioning.
Canister exudate to be measured and discarded every shift.
Monitor exudate and alert WOC if any increase or change in exudate quality.
Monitor for fevers or changes in wound that denote infection or deterioration.

Dressing to be changed every 72 hours or sooner if needed.
Pre-medicate for pain 30 minutes prior to dressing change. Shut off wound vac at this time when medicating patient.
May use Lidocaine 4% topical solution prior to dressing change. Inject 15mL into wound vac suction tubing to saturate wound vac foam 30 minutes prior to dressing change.
Remove old dressing.
Cleanse wound and periwound skin with wound wash and gauze.
Apply Cavilon to periwound skin including thigh where wound vac pad suction appliance will be applied.
Apply transparent dressing to periwound skin around wound bed in windowpane fashion and a tail bridge extending up to thigh where suction pad will be attached.
Black foam to be measured and cut away from wound to fit wound bed leaving a strip for bridging to extend past wound bed for wound suction to be applied here and not over genitalia for patient comfort.
Place black foam in wound bed and bridge foam up to thigh.
Secure foam with transparent film.
Cut hole in film to accommodate wound vac pad suction appliance and put in place. Cover with transparent dressing strips to ensure seal.
Trace edges of film dressing with skin prep or Cavilon if needed to ensure adherence and seal.
Apply NPWT continuous setting per facility policy and patient tolerance (125mmHg typical setting).
Secure tube to thigh with appropriate anchoring securement device to reduce tension and leaks.
Discontinue NPWT for bleeding and alert MD and WOC team.

Call WOC team for any changes or wound dressing concerns.

Change wound dressing to NS wet to moist gauze dressing and place on wound if NPWT off more than 2 hours and consult WOC team for further instruction.

Education plan will be centered on staff use and need for NPWT while in post surgical acute phase then focus will shift to support staff at sub-acute rehabilitation facility or visiting nurses if discharged to home. Patient education of NPWT will be done when patient is lucid and comfortable for optimal learning. The focus of our education will be that negative pressure wound therapy promotes granular tissue formation, manages exudate and debris while diverting fluids away from periwound skin to avoid maceration, and promotes wound healing with decreased risk of infection. Patient comfort will also be an education point that the NPWT suction can be adjusted if needed and the NPWT will promote faster healing time and or to facilitate optimal conditions for surgical grafts or flaps needed for wound closure.

In identifying what could be done differently, I would absolutely recommend a dietary consult for when this patient is more alert in addition to having all nurses take an education opportunity with the patient upon every blood glucose check. Was the patient able and capable of managing her daily glucose monitoring and insulin administration? In addition to glucose control we need to ensure adequate protein intake along with vitamin and mineral supplementation for optimal healing conditions.

I would also look into her home treatment team. Does our patient have an endocrinologist or primary care who has been managing diabetes?

Were initial labs obtained in the ED obtained focusing on the infection? Any cause of this infection that was exacerbated by the uncontrolled diabetes needs to be diagnosed and treated via laboratory values be it UTI/GU origin if applicable. The surgery team would have obtained cultures for treatment of the necrotizing fasciitis and I would have ensured this would cover any infections. As a journal note, my preceptor at Akron General noted a significate rise in Fournier's gangrene over her career time of twenty plus years and feels it is in direct correlation with the rise of obesity and diabetes.

Continence management will be imperative to avoid any new infection or skin/wound irritation.

I chose this virtual case because the NPWT is intimidating, and we only had one patient with clinical. This is everything I have learned about the topic and I watched more videos and read more studies on the topic. Every source including our textbook says to apply lidocaine topically for comfort, but it is suppose to be contraindicated with open skin. The complex wound .com video stated you can use lidocaine for comfort but without detail. Our text has one sentence that stated chronic use of lidocaine can lead to systemic absorption. On a journal note and goal, my goal is to ask you if the one source that sited you can inject lidocaine into the wound vac tubing is accurate or why wound you ruin the tubing and make an opening for a portal of infection to

enter the tube? I did not see a port on the tubing for this purpose and it was a pharmacist who posted this video. Thank you!