Ontario
Health atHome

Guidelines for Provision of KCI VAC Negative Pressure Wound Therapy (NPWT)

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1. INTRODUCTION

The Erie St. Clair (ESC) Local Health Integrated Network (LHIN) provides negative pressure wound therapy (NPWT) to eligible patients for a maximum of 10 weeks. The following guidelines have been developed based on a NPWT and wound care literature review and in consultation with other LHIN's, hospital partners and nursing service providers with consideration of the ESC LHIN's obligation to provide equitable access to all clients requiring NPWT.

2. DEFINITIONS

<u>Negative Pressure Wound Therapy</u>

"Negative pressure wound therapy (NPWT) is the process by which negative pressure is distributed across a wound base via a dressing with the specific intent to promote wound healing. Negative pressure (sub atmospheric pressure) has been used to treat a variety of wound types. Secondary to the widespread applicability of therapy in acute and chronic wounds, this technology has received general acceptance in the wound care community for surgeons and non-surgeons alike." (McNulty et al, 2003).

In 2008, The World Union of Wound Healing Societies expert panel conducted an update on recent literature and consensus opinion which indicated the aim of NPWT was to:

- Remove exudate and reduce peri-wound edema
- Increase local microvascular blood flow / Vascularity
- Promote granulation tissue
- Reduce complexity / size of wound
- Optimize wound bed prior to and following surgery
- Reduce complexity of surgical wound closure procedures.
- May act as a barrier to bacteria (patient/caregiver)
- May promote patient independence, mobility and comfort.
- Provide a cost effective treatment option
    - Length of stay
    - Staff labor
    - Reduction in adverse events.

<u>Wound Care Specialist (WCS)</u>

A Wound Care Specialist (WCS) is a clinician who is considered an expert in performing wound care duties. In the ESC LHIN, a WCS is a clinician who is a certified NSWOC and/or has a MCISc WH degree and/or has an advanced wound care course <u>such as</u> the IIWCC plus a mentorship. Clinicians must work within their scope of practice as determined by their regulatory body. A Wound Care Specialist may also be a physician who specializes in the care of wounds.

3. ESC LHIN PROVISION OF NPWT

The ESC LHIN provides NPWT to eligible patients in collaboration with their contracted vendor, nursing providers and physicians.

The ESC LHIN will determine the number of patients that may receive NPWT at any given time. This determination will be dependent on the needs of the patient and the resources available to the LHIN for the provision of this therapy.

4. INDICATIONS FOR NPWT

According to the FDA, NPWT therapy is indicated for patients with chronic, acute, traumatic, sub-acute and dehisced wounds, partial-thickness burns, grafts and ulcers, such as venous, diabetic or pressure injuries. The following conditions can be considered for the application of NPWT:

1. Pilonidal cysts.
2. Diabetic ulcers (if offloaded)
3. Pressure injury stage 3 or 4 (if pressure redistributed)
4. Abdominal wounds
5. Flaps and grafts
6. Dehisced surgical wounds
7. Partial thickness burns
8. Thoracic – deep sternal wound infections.
9. Complications related to a surgically created wound or a traumatic wound
10. Medical necessity for accelerated formation of granulation tissue for a client who can be discharged home
11. Other: wounds at the discretion of the clinician. Rational is needed to support treatment goals.

5. PRECAUTIONS TO BE CONSIDERED FOR NPWT

If any of the following conditions exist, the appropriateness of NPWT must be discussed with the physician and/or wound care specialist prior to approving the use of NPWT:

- Immunodeficiency e.g. Leukemia, HIV;
- Hematologic disorders;
- Systemic or local signs of infection;
- Uncontrolled diabetes;
- Uncontrolled hypertension;
- Arterial insufficiency (where ABPI is less than 0.5)
- Drug or alcohol abuse;
- Systemic steroids;
- Anticoagulants;
- The location of the wound if it will interfere with the therapy;
- Exposed blood vessels or organs.
- Spinal Cord Injuries
- History of non-compliance

6. CONTRAINDICATION FOR NPWT

The following risk factors contraindicate the use of NPWT:

- Untreated osteomyelitis;
- Malignancy in the wound margins;
- Non-enteric and unexplored fistulas.
- Necrotic tissue with eschar
- Unresolved bleeding following debridement

7. ELIGIBILITY FOR NPWT

NPWT is one treatment in an array of treatments for wound care and must only be considered after a comprehensive assessment by a wound care specialist.

There are two types of eligibility for NPWT that must be considered:

1. Clinical eligibility which refers to the wound being clinically appropriate for NPWT, as detailed above under the heading "Indications for NPWT" and;
2. ESC LHIN eligibility for the service.

➢ 7.1 Clinical Eligibility

The ESC LHIN Care Coordinator will assess for clinical eligibility. Referrals received at the Intake department will be forwarded to the appropriate Care Coordinator for assessment and processing as per the usual Intake process.

The LHIN will consider the following criteria when assessing the patient:

- Receipt of completed "ESC LHIN Negative Pressure Wound Therapy Referral Form" completed by physician or WCS.
- Patient has an open wound healing by secondary or tertiary intention. Wounds which have been sutured or stapled closed would only be considered for therapy in conjunction with the ESC LHIN Wound Care Specialist.
- Cause of wound has been addressed:
  - Pressure relieving devices must be in use for pressure wounds
  - Diabetic foot ulcers must be offloaded
  - Venous leg ulcers must have compression systems in place
- Patient has sufficient blood flow to support healing
  - ABPI must be =/> 0.5, or vascular assessment must be completed by vascular surgeon
- Co-morbidities have been addressed
- Blood Sugar must be controlled, patient is monitoring and under practitioner monitoring
- Patient has adequate nutritional status to support wound healing
- Patients are ineligible for NPWT if they are receiving treatment which would impede/halt wound healing (e.g. chemotherapy) or if wound healing is not the treatment goal (e.g. end stage palliative care).

➢ 7.2 ESC LHIN Service Eligibility

The ESC LHIN will assess for service eligibility considering the following criteria:

- Patient meets eligibility for community services;
- Patient or substitute decision maker consents to the treatment, as well as required education, and is willing and able to adhere to the NPWT treatment;
- Patient has been assessed as being able to adhere to the plan of car (e.g. pressure offloading, glucose control, compression therapy, nutritional recommendations);
- Accessibility to a three pronged electrical outlet;
- Home environment is determined by Care Coordinator in collaboration with service providers and patients, to be appropriate for NPWT.

- Patient is determined to be able to manage treatment modality without increased safety risk (e.g. fall risk)
- Patients whose wound is related to a WSIB claim or automobile accident insurance claim, or who are in the military, will be covered 100% by these services for rental of the NPWT unit and supplies. These patients should contact their case worker to arrange for coverage of the NPWT unit and supplies. The LHIN will provide nursing services and conventional dressing supplies.

  Where patient is being referred for NPWT for a wound, where the same wound has been treated unsuccessfully with NPWT in the past, clinician must discuss with the ESC LHIN Wound Care Specialist and identify clinical or psychosocial changes that would indicate NPWT could be successful if retried. NPWT would be provided for a trial period of 2 weeks during which time wound must demonstrate 20% improvement in order to continue with treatment.

8. REFERRALS SOURCES

➢ 8.1 NPWT Referral Initiated From Hospital

(See roles and responsibilities pg 8)

If a patient is being discharged from the hospital with VAC orders, and meets the LHIN eligibility, the hospital Care Coordinator (CC) will order VAC and supplies as per hospital orders as part of the discharge planning. There is an option for the VAC and disposables to be delivered to the hospital to be applied just prior to discharge. The CC will notify the Distributor of the treatment address. This needs to be set up 24 hours prior to discharge in order for VAC and supplies to arrive at the treatment address. There is also an option for the hospital VAC pump rental to be transferred to the community upon discharge, in this case the rental is switched from hospital to community. The serial number for the VAC rental being switch must be included in the discharge information from the hospital.

➢ 8.2 NPWT Referral Initiated In the Community or Out of Area Hospital

(See roles and responsibilities re: Intake CC and Primary/Assigned Patient CC pg 8-9)

When a referral to initiate NPWT is made in the community, the ESC LHIN will accept the referral and assess for service eligibility if the wound has been assessed by a Wound Care Specialist (WCS).

If the wound was not assessed by a WCS, the ESC LHIN will accept the referral and admit the patient if the service eligibility is met. Conventional therapy will be provided and an assessment by a WCS in the community will be arranged. The WCS will assess the wound and communicate the assessment and recommendation to the referring physician. The referring physician and WCS in consultation will decide on the appropriateness of the wound for NPWT.

**A waitlist will be maintained for patients requesting NPWT if the resource is not currently available. If the patient is placed on a waitlist for NPWT conventional treatment will be provided/offered until the NPWT unit is available.

9. MONITORING / DISCHARGING PATIENTS ON NPWT

Discontinuation criteria:

ESC LHIN will provide NPWT for a MAXIMUM treatment time of 10 weeks.

Wound healing will be assessed and documented at each nursing visit. The therapy will be reassessed by the WCS every 3 weeks and as needed.

NPWT should be re-evaluated by the nurse, prescriber or WCS and discontinued if appropriate under the following circumstances:

- WCS/nurse/prescriber determines adequate wound healing has occurred
- No measurable progress to wound healing in 2 weeks;
- Less than 20-30% reduction in size of the wound following 21- 28 days of therapy;
- The wound is ready for epithelialization;
- 10 weeks of treatment with NPWT is complete or goals of treatment have been attained;
- Patient is receiving treatment which would impede/halt wound healing (e.g. chemotherapy);
- Patient's overall physiological status has deteriorated to a level where wound healing is no longer a treatment goal (e.g. end stage palliative care).
- The patient does not adhere to the NPWT therapy or plan of care (e.g. pressure offloading, glucose control, compression therapy, nutritional recommendations)
- The wound or surrounding tissues deteriorates;
- Patient not willing/able to receive NPWT treatment 24 hours day/ 7 days per week;
- Excessive Bleeding;
- Bruising;
- Unmanageable pain in response to the therapy; after appropriate interventions to decrease pain have failed;
- An occlusive seal cannot be achieved; after a reevaluation by a Wound Care Specialist.
- Patient demonstrates allergy to the NPWT product which cannot be resolved
- Quantitative measurements of wound characteristics including length, width and depth are serially observed and documented demonstrating progress:
- The SP/Automated Provider Report (APR) is required to be completed at the first visit by the WCS and every 2 weeks by nurse.

10. ROLES AND RESPONSIBILITIES

Treating Physician/Clinician

- Assess the patient and the wound;
- Provide a ESC NPWT Referral Form;
- Provide ongoing supervision of the progress of the therapy;
- Ensures familiarity with the ESC LHIN NPWT Guidelines and eligibility/discharge criteria;
- Ensure patient is meeting the goals and outcomes of NPWT as outlined in the above guidelines.

Patient or Substitute Decision Maker

- Provide informed consent for the treatment;
- Be willing and able to participate in the NPWT treatment and plan of care;
- Understand that the therapy must continue 24 hours a day/7 days per week;

- Contact the appropriate person if there are any issues with the therapy;
- Take appropriate precautions to avoid damage to the NPWT unit (e.g. not expose to water, repeated dropping on the floor).

Wound Care Specialist (WCS)

- Have the required scope of practice, training and expertise in NPWT;
- Be available to complete KCI VAC NPWT referral form as part of initial assessment if needed;
- Be available to apply initial VAC NPWT as a top priority visit (Monday-Friday within 24 hours, after confirmation that pump and supplies are available for initial patient application)
- Based on NPWT assessment wound information, the WCS can delegate the first application to a nurse with the knowledge skill and judgment to complete that specific patient wound assessment and NPWT application. The WCS will notify the Care Coordinator of the delegated task prior to the first visit. The delegated nurse would be responsible to send in an APR for the first visit with an initial wound assessment that has been reviewed by the WCS.
- All NPWT Referral Information must first be reviewed by the WCS. It is the WCS only who would delegate the patient specific care.
- Be available for ongoing assessments as required;
- Communicate with the nurse, physician and Care Coordinator about the appropriateness of the therapy for the client and progress;
- Be available to troubleshoot any problems with NPWT;
- Ensures familiarity with the ESC LHIN NPWT Guidelines, eligibility/discharge criteria;
- Ensure patient is meeting the goals and outcomes of NPWT as outlined in the above guidelines.

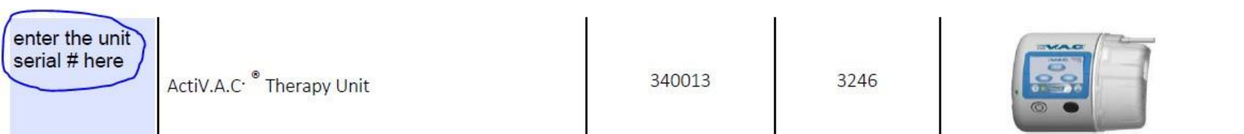
Hospital Care Coordinator:

Scenario # 1: VAC is ordered as part of discharge from any ESC regional hospital:

- Ensure assessment form is complete, and ESC eligibility met.
- Add NPWT Client Coding to patient file in CHRIS (Health Profile, Client Coding)
- Complete VAC Supply Order Form, ensure Initial Order Box is checked and CC name is entered (this indicates CC approval for initial supplies)
- VAC supply order form:
  - If pump required, ensure ActiVAC Therapy Unit is ordered as part of initial order, (CHRIS code 3246)
- Hospital PSA or CC scans order to the MSD folder in the DMS Triage tool.
- Hospital CC authorizes a block of 2 visits for WCS.
- Hospital CC authorizes nursing in CHRIS.
- Nursing and WCS referral should go to the same provider agency as per WCS guidelines.

Scenario # 2: VAC is applied in hospital and patient is sent home with VAC.

- ActiVAC pump rental is switched from the hospital rental to community rental.
- Record the serial number of the ActiVAC device applied in hospital under the Order field on the VAC order form.



enter the unit serial # here	ActiV.A.C.® Therapy Unit	340013	3246	

- Hospital PSA or CC scans order to the MSD folder in the DMS Triage tool.
- Hospital CC authorizes a block of 2 visits for WCS nursing.
- Hospital CC authorizes nursing in CHRIS.
- Nursing and WCS referral should go to the same provider agency as per WCS.

Intake Care Coordinator

Note: All NPWT referrals received through Intake must be on an ESC NPWT Assessment Form. If not, the Intake Triage CC will provide the assessment form to the referral source for completion and submission.

** Note: SW LHIN have a different NPWT device on formulary so the SW NPWT order form, not same parameters or supplies as VAC system.

Scenario # 1: Receives referral for NPWT from an out of area hospital.

- Complete VAC Supply Order Form, ensure Initial Order Box is checked and CC name is entered (this indicates CC approval for initial supplies)
- Add NPWT Client Coding to patient file in CHRIS (under Health Profile/Client Coding and add NPWT Rental client coding)
- Task Intake Team (PSA) to scan the VAC SUPPLY ORDER FORM to the 'MSD' folder on the DMS Triage Tool.
- Intake CC authorizes a block of 2 visits for WCS nursing.
- Intake CC authorizes nursing in CHRIS.
- Nursing and WCS referral should go to the same provider agency as per WCS.

Scenario #2 Receives referral from Day Surgery for ESC patient

Often this surgery is related to skin grafts and the patient has been sent home with the VAC pump in place.

- ActiVAC pump rental is switched from the hospital rental to community rental on the

- Intake PSA or CC scans order to the MSD folder in the DMS Triage tool.
- Intake CC authorizes a block of 2 visits for WCS nursing.
- Intake CC authorizes nursing in CHRIS.
- Nursing and WCS referral should go to the same provider agency as per WCS.

Assigned Care Coordinator

- Referral for NPWT received for patient already on service (often as recommended by a WCS)
- If all parameters met, add NPWT Client Coding to patient file in CHRIS (under Health Profile, Client Coding)
- Complete VAC Supply Order Form

- CC authorizes a block of 2 visits for WCS.
- CC authorizes nursing in CHRIS.
- Nursing and WCS referral should go to the same provider agency as per WCS.
- Monitors wound progress, approve frequency based on biweekly wound report submitted by nurse.
- Receives notification from SP of VAC discontinuation.
- Task Team (PSA) to end ActiVAC rental in CHRIS.
- Ensure familiarity with the ESC LHIN NPWT Guidelines and eligibility/discharge criteria;
- Develop and monitor an appropriate service plan;
- Communicate with the nurse and physicians as required.
- Monitor supply and equipment use.
- Apply a multi-disciplinary approach towards wound healing (OT, nutrition)
- Therapeutic Hold, (VAC therapy can be placed on hold for up to 14 days without ending rental)
- CC to call the KCI 1-800#, provide patient BRN # report the therapeutic hold
- KCI will provide a confirmation number and there will be no charge for 14 days
- Send a task to the caseload to monitor VAC status daily include confirmation #
- When VAC is reapplied call KCI, give confirmation # and they will re-activate VAC rental
- If > than 14 days, end VAC rental.

Community Care Team PSA's

- End equipment rental under (ActiVAC, CODE 3246, Vendor is ESC KCI MEDICAL CANADA INC) when directed.

Medical Equipment & Supply Team

- Monitors 'MSD' folder on the DMS triage tool for new VAC orders throughout shift.
- Data enters initial VAC orders into CHRIS:
  - Note: there is no delivery fee to enter.
  - If a patient was discharged from hospital with a VAC unit in place, there order form will include a serial number instead of a quantity. Enter this serial number in the comments section of the requisition.
  - Enter items in CHRIS, the Initial Order Check Box should be checked and CC name on the order form indicates approval of items.
  - Delete the VAC order form from DMS triage tool (MSD folder) when data entry is complete in CHRIS.

KCI VAC

- Provides 24/7 HELP DESK for trouble shooting 1-800-668-5403
- First line for assistance for all VAC questions or concerns.

Distributor, TSSO

- Receive and fill orders.
- VAC and disposables delivered to patient's home or treatment address within 24 hours of receiving order initial order.
- Contact patient/caregiver to arrange delivery time to patient treatment address.
- Ongoing delivery of supplies to designated depot.
- Contact all patients to inform of delivery to depot.
- Depot deliveries every Tuesday and Friday.
- All orders submitted up to noon day prior of delivery day will be at depot the next delivery day e.g. orders submitted by Monday at noon will be delivered on Tuesday.
- VAC rental notification of discontinuation.
- 24/7 distribution contact information.
- Replacement of malfunctioning therapy units.

Service Provider

- Send referral to WCS for first visit, (See delegation criteria section 10.C)
- Apply the treatment, and monitor progress of the therapy;
- WCS to reassess on an as needed basis.
- Teach patient/family re: therapy (e.g. trouble shooting, changing canister);
- Visit client every 72 hours for dressing changes, or other frequency as implemented by WCS/physician in conjunction with CC.
- Assign only nurses trained in NPWT to the client;
- Receive refresher hands on training yearly by KCI VAC vendor.
- Complete appropriate required service provider report via the automated provider report (APR) and updates regarding patient's response to NPWT as per reporting guidelines.
- Block visits approved in 2 week increments with biweekly wound status report that includes measurement and percentage of healing.
- To calculate percentage reduction in healing

$$\frac{SAI - SAC}{SAI} \times 100 = _______ \% \text{ of reduction}$$

SAI = surface area (LxW) on admission
SAC = surface area currently

  - To determine the percentage of healing since the last time the calculation was done, the same formula is used to calculate the current % reduction, from which the previous one can be subtracted to determine the change in % in the interval.

- Nursing Service Providers are responsible to ensure patients are meeting the criteria for eligibility outlined in this document and report any failure to meet criteria to the ESC LHIN promptly.

- Order necessary supplies:
    - A maximum of 6 NPWT dressing kits per 2 weeks and canisters based on drainage, canisters are not changed routinely at every dressing change, however are changed when the canister is full.
    - Nurse is responsible to teach patient/family to change canister.
- KCI 24/7 Help Desk at 1-800-668-5403, first line for trouble shooting and therapy unit question or concerns ion
- If directed by HELP DESK, contact the distributor if a replacement device is required.
- VAC may be placed on a Therapeutic Hold for up to 14 days, nurse to call CC and notify of Therapeutic Hold and rationale, CC will contact KCI and place on hold, nurse verbally contact CC when VAC is reapplied so CC can reactivate rental. After 14 days if VAC not reapplied VAC rental should be ended.
- When VAC is discontinued the nurse is to contact the ESC LHIN CC the same day so rental can be discontinued. If the CC is not available the nurse should contact an IOCC and if leaving a message please request a call back to ensure the ESC LHIN is aware that the rental has ended.

NPWT is an expensive resource and as such must be managed by all stakeholders with cost effective due diligence

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