

USE OF NEGATIVE PRESSURE WOUND THERAPY FOR CESAREAN PATIENTS WITH OBESITY

Evaluating clinical outcomes and budget impact at a quaternary care hospital

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What is Negative Pressure Wound Therapy?

- A wound-healing technology that creates a vacuum-sealed environment to improve healing and reduce the risk of infection.
- The two commonly available devices differ by the level of negative pressure used: -80 mmHg or -125 mmHg.
- Policy question:** Should NPWT be used in patients with a BMI >30 kg/m² who undergo cesarean section at the MUHC?

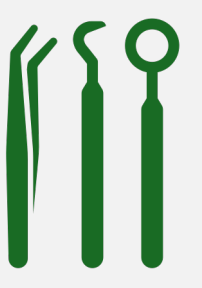
Methods

Meta-analysis of 10 randomized controlled trials



Population

Pregnant patients with obesity
(BMI>30kg/m²) undergoing cesarean



Intervention

Negative pressure wound therapy (NPWT)



Comparator

Standard dressing



Outcomes

Surgical site infections, wound complications,
hospital readmissions, and reoperations



Clinical Effectiveness



Surgical Site Infections

21% reduction (RR=0.79, 95% CI: 0.66, 0.95)

Moderate quality evidence



Wound Complications

Inconclusive (RR=0.90, 95% CI: 0.73, 1.09)

Low quality evidence



Hospital Readmissions

No evidence of benefit (RR=1.41, 95% CI:
0.88, 2.27)

Low quality evidence



Pressure Level
(-80 vs -125mmHg)

No significant difference in outcomes

Low quality evidence

Budget Impact



Burden of Illness

Post-cesarean SSI rate at MUHC ranges
from 1.5% to 2.8% over past 5 years



Cases prevented if NPWT
used

3 to 5 SSI cases annually



Budget impact

Device cost: \$200
Cost for 200 patients: \$40,000/year



Incremental cost-
effectiveness ratio

\$11,173 to prevent one additional
surgical site infection

Conclusions

- Given the very low rate of surgical site infection post-caesarean section at the MUHC;
- Given that there is no evidence of effectiveness of the device on more serious complications and readmissions;
- The opportunity for **impact on clinical benefit and cost savings is minimal.**