

A Service Evaluation Demonstrating the Protocolization of a Single-Use Negative Pressure Wound Therapy Device for Reducing Surgical Site Complication Risk following Gynecology and Gynecological Oncological Surgery

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Significance

Surgical site complications (SSCs) pose many challenges for patients undergoing gynecology and gynecological oncological surgical procedures¹⁻⁵.

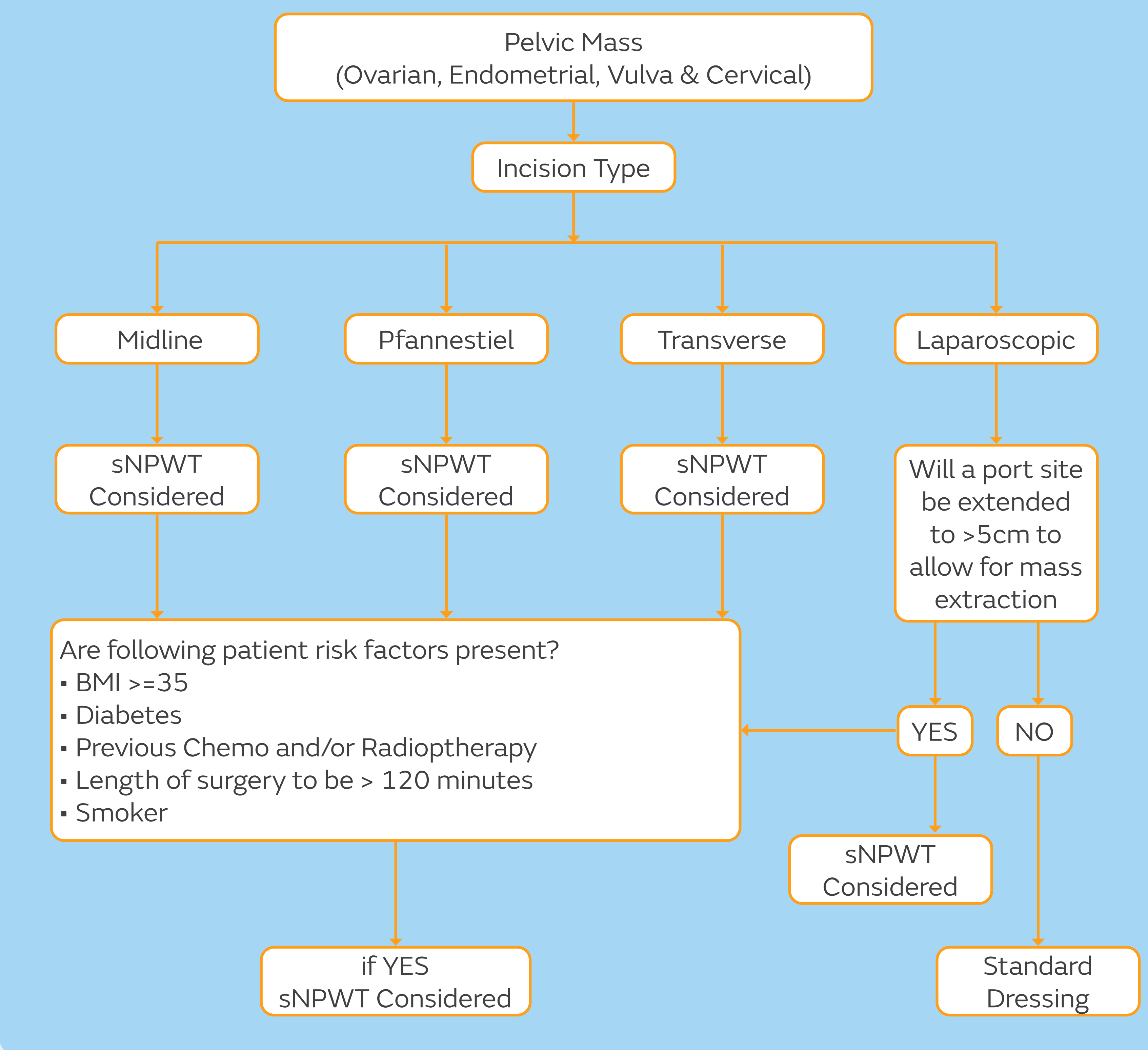
Purpose

The aim of this service evaluation was to determine the clinical and health economic outcomes following the implementation of a risk based surgical incision protocol for reducing wound complications by applying single-use negative pressure wound therapy (sNPWT)* for closed incision management.

Methodology

A multicenter service evaluation was conducted to assess the implementation of a surgical incision protocol including sNPWT, in patients at higher risk of developing SSCs, based on patient and surgical risk factors. Key outcomes measured and reported included incidence of surgical site infections (SSI), incidence of SSCs, length of stay, delay in adjunctive therapy, re-admission, and reoperation.

sNPWT Surgical Protocol for Oncology-Gynaecology Surgical Incision



Results

A total of 96 patients received a sNPWT device for incision management. The wound complications rate was 10.4% (n=10); encompassing 6.7% (n=7) SSI and 3.1% (n=3) dehiscence. No seroma or hematoma events were reported. Of the 10 patients that experienced either SSI or SSC, four patients were readmitted, however no re-operations due to wound complications occurred. No patients with SSC or SSI experienced delays to adjuvant therapy or required re-operation due to wound complications.

Key health economic outcomes from service evaluation and clinical audit

	Clinical Audit (6)	Service Evaluation of sNPWT Surgical Closed Incision Protocol
Number of Patients	339	96
Number of SSIs	54	7
SSI Rate (%)	16	7.3
Median Length of Stay (days)	5	6
Median Number of Days Patient fit for Discharge	Not reported	5
Number of Patients with Delay to Discharge	18	3
Number of Patients requiring a Readmission due to SSI	5	2
Median Cost Attributable to SSI (GBP/EUR)	469,161.72 EUR £413,358.12 GBP	60,817.26 EUR £53,583.46 GBP
Cost of sNPWT device	Not used	14,688.00 EUR £12,933.00 GBP

Conclusion

Implementation of a surgical incision protocol including sNPWT for patients undergoing gynecology and gynecological oncological surgical procedures was shown to be beneficial within this cohort. In comparison to recent literature, which demonstrated a 16% SSI rate, the implementation of a surgical incision protocol including sNPWT reduced the SSI rate by more than half (58%). Utilizing sNPWT as part of a surgical protocol for at risk patients can improve clinical outcomes, most importantly allowing adjuvant therapy to commence on time, while decreasing the impact on mortality and morbidity. The identification of the at-risk patient and utilization of a risk stratification approach can further assist in decreasing health care expenditures related both to the cost of NPWT and consequences of SSC. This reduction therefore positively impacts other relevant outcomes, including re-admissions, re-operation, adjunctive therapy delays, morbidity, and mortality.

*PICO® Single Use Negative Pressure Wound Therapy System, Smith and Nephew, Hull, UK.

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