**Research Q3 Evidence Profile (Quantitative)**

**Question 3**: Should prevention strategies for parastomal hernia development or no prevention strategies for parastomal hernia development be recommended?

**Population:** All adults (18 & over) living with or anticipating an ostomy.
**Intervention:** Prevention strategies for parastomal hernia development.
**Comparison:** No prevention strategies for parastomal hernia development.
**Outcomes:** Rates of parastomal hernia.

**Setting**: All healthcare settings

**Bibliography**: 1489, 2991

| Quality assessment | | | | | | | Study details | | No. of participants | | Reported effects/outcomes | Certainty | Reference |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **№ of studies** | **Study design** | **Risk of bias** | **Inconsistency** | **Indirectness** | **Imprecision** | **Other considerations** | **Country** | **Parastomal hernia prevention intervention** | **Hernia prevention intervention** | **No hernia prevention intervention** | | | |
| **Rates of parastomal hernia (*measured objectively*)** | | | | | | | | | | | | | |
| 1 | Quasi-experimental (prospective study with retrospective comparison) | very serious [a] | not serious | serious [b] | serious [c] | none | 1489: UK | Intervention programme included advice on wearing lightweight support garments as well as an abdominal exercise programme to start immediately. | 15/100<br><br>(0.15%) | No true comparison group. Rates of hernia in study participants were compared to 23 per cent local incidence and 44 per cent overall incidence reported in existing studies. | Overall, the study reported that the incidence of parastomal hernia was 15 per cent in all study participants and 1 per cent among those who were fully compliant to the program.<br><br>However, the study did not provide details regarding measures taken to ensure compliance. Details of comparison groups to which the incidence of hernia were compared to were also lacking. It is unclear if the comparison group participants only received usual care. | ⊕◯◯◯ VERY LOW | 1489:North (2014) |
| 4 | Systematic | serious [d] | not serious | serious [e] | serious [f] | none | 2991: UK, Israel & | Two out of five individual studies | **Thompson &** | **Thompson &** | **Thompson & Trainor (2005):** For every 100 | ⊕◯◯◯ | (De Raet et al., 2008; |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| № of studies | Study design | Risk of bias | Inconsistency | Indirectness | Imprecision | Other considerations | Country | Parastomal hernia prevention intervention | Hernia prevention intervention | No hernia prevention intervention | | | |
| | Review | | | | | | Belgium | within the systematic review examined a parastomal hernia prevention programme for patients after stoma surgery (Thompson and Trainor, 2005; 2007).<br><br>One individual study evaluated preoperative stoma site marking on the incidence of hernia (Person et al., 2012)<br><br>One individual study assessed the correlation between optimal body mass index (BMI), waist circumference and parastomal herniation (De Raet et al., 2008). | **Trainor (2005)**<br>16/114 (14%)<br><br>**Thompson & Trainor (2007)**<br>17/99 (17%)<br><br>**(Person et al., 2012)**<br>3.8 / 52 (7%)<br><br>**(De Raet et al., 2008)**<br>22/41 (reported no hernia when mean BMI was 24.5 )<br><br>22/41 (reported no hernia when mean waist | **Trainor (2005)**<br>24/87 (28%)<br><br>**Thompson & Trainor (2007)**<br>24/87 (28%)<br><br>**(Person et al., 2012)**<br>24.5 / 53 (46%)<br><br>**(De Raet et al., 2008)**<br>19/41 (reported hernia when mean BMI was 28.2)<br><br>19/41 (reported hernia when mean | people who receive parastomal hernia prevention programme, 14 fewer will develop parastomal hernia (ranges from 20 fewer to 3 fewer).<br><br>**Thompson & Trainor (2007):** For every 100 people who receive parastomal hernia prevention programme, 11 fewer will develop parastomal hernia (ranges from 18 fewer to 2 more).<br><br>**(Person et al., 2012):** For every 100 people who receive pre-operative stoma site marking, 39 fewer will develop parastomal hernia (ranges from 44 fewer to 26 fewer).<br><br>**(De Raet et al., 2008):** When BMI is less than 24.5 and waist circumference less than 100, there is a less chance of developing parastomal hernia. | VERY LOW | Person et al., 2012; Thompson & Trainor, 2005, 2007) as cited in [Bland & Young, 2015]). |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| № of studies | Study design | Risk of bias | Inconsistency | Indirectness | Imprecision | Other considerations | Country | Parastomal hernia prevention intervention | Hernia prevention intervention | No hernia prevention intervention | | | |
| | | | | | | | | | circumference was 94) | waist circumference was 105). | | | |

## Explanations

a. Based on the ROBINS-I tool for quasi-experimental studies, this study had very serious concerns related to risk of bias due to limitations in how the study was conducted. We downgraded by 1.5.

b. No details about control group provided; unable to assess if control group received only usual care. Therefore, study was downgraded 0.5 points for indirectness.

c. The total number of events (persons who developed hernia) for the study was less than 300 (optimal number of events). Therefore, the study was downgraded by 0.5 points.

d. Based on the ROBINS-I tool for quasi-experimental studies, the individual studies (within the systematic review) had serious concerns related to risk of bias due to limitations in how the studies were conducted. We downgraded by 1.

e. It is unclear if the comparison group received only usual care in the included studies. So downgraded by 0.5.

f. The total number of events (persons who developed hernia) for the study was less than 300 (optimal number of events). Therefore, the study was downgraded by 0.5 points.