**NHMRC Evidence Statement Form**

Table 1: NHMRC Evidence Statement for clinical question PRP2-5,7:
“Can peri operative management be optimised?”

<table>
<thead>
<tr>
<th>PICO PRP2-5,7: In patients diagnosed with colorectal cancer and undergoing surgical tumour resection, does mechanical bowel preparation with or without antibiotic prophylaxis, when compared to usual care, achieve better outcomes in terms of anastomotic leakage, surgical site infection, length of hospital stay and ileus?</th>
<th>Report body of evidence tables</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Evidence base</strong> (number of studies (quantity), level of evidence and risk of bias in the included studies – see body of evidence tables in report)</td>
<td></td>
</tr>
<tr>
<td>Outcomes were reported from 14 level II randomised controlled trials (RCTs) which were reported across 16 articles examining the effect of mechanical bowel preparation (with antibiotic prophylaxis) compared to no mechanical bowel preparation (with or without antibiotic prophylaxis) in colorectal cancer.</td>
<td>A One or more level I studies with a low risk of bias or several level II studies with a low risk of bias</td>
</tr>
<tr>
<td>One paper (van’t Sant 2010) included a subset of individuals from the main trial (Contant 2007).</td>
<td>B One or two Level II studies with a low risk of bias or SR/several Level III studies with a low risk of bias</td>
</tr>
<tr>
<td>All of the RCTs were at risk of bias as determined by the Cochrane risk of bias tool.</td>
<td>C One or two Level III studies with a low risk of bias or Level I or II studies with a moderate risk of bias</td>
</tr>
<tr>
<td>Outcomes of interest included anastomotic leakage/dehiscence, surgical site/wound infection (including abscess), ileus and length of hospital stay. Grade D</td>
<td>D Level IV studies or Level I to III studies/SRs with a high risk of bias</td>
</tr>
<tr>
<td><strong>2. Consistency</strong> (if only one study was available, rank this component as ‘not applicable’) See body of evidence tables in report – results and p value (95% CI)</td>
<td></td>
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<tr>
<td>Anastomotic leakage/dehiscence</td>
<td>A All studies consistent</td>
</tr>
<tr>
<td>Ten RCTs and one subgroup analysis (van’t Sant 2010) reported the outcomes of anastomotic leakage or dehiscence rates when comparing mechanical bowel preparation (with antibiotic prophylaxis) to no mechanical bowel preparation (with or without antibiotic prophylaxis). All 10 RCTs reported overall anastomotic leakage or dehiscence rates with postoperative follow up ranging 24 days to 3 months. Seven of these RCTs were consistent in reporting none or negligible differences between groups, one trial (Bhattacharjee 2015) marginally favoured no mechanical bowel preparation (MBP: 10.5%; No MBP: 6.1%; p=0.68) while two further trials (Bretagnol 2010; Sasaki 2012) favoured mechanical bowel preparation (MBP: 11.0%; No MBP: 19.0%; p=0.09; MBP: 2.6%; No MBP: 7.3%; p=NS, respectively). However, apart from one trial that reported a trend in significance (Bretagnol 2010; p=0.09), all trials consistently reported no statistically significant differences between groups (p-values ranging 0.20-0.99). The trials that did report small differences between groups were</td>
<td>B Most studies consistent and inconsistency can be explained</td>
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<tr>
<td></td>
<td>C Some inconsistency, reflecting genuine uncertainty around question</td>
</tr>
<tr>
<td></td>
<td>D Evidence is inconsistent</td>
</tr>
<tr>
<td></td>
<td>NA Not applicable (one study only)</td>
</tr>
</tbody>
</table>
for the outcome of overall anastomotic leakage and tended to have lower participant numbers than those reporting none to negligible differences between groups.

Subgroup analyses were conducted in three RCTs and van’t Sant 2010 in relation to overall anastomotic leakage or dehiscence rates between mechanical bowel preparation (with antibiotic prophylaxis) compared to no mechanical bowel preparation (with or without antibiotic prophylaxis) for patients. Subgroups of low anterior resection (van’t Sant 2010 p=0.80), ileocolostomy (Pena-Soria 2008; p-value not reported), hand-sewn anastomosis (Zmora 2006; p-value NS) and stapled anastomosis (Zmora 2006; p-value NS) consistently found no significant differences between mechanical bowel preparation (with antibiotic prophylaxis) compared to no mechanical bowel preparation (with or without antibiotic prophylaxis) groups. The subgroup of colorectostomy (Pena-Soria 2008) had slightly lower rates of overall anastomotic leakage for mechanical bowel preparation (with antibiotic prophylaxis) (p-value reported as NS) while no mechanical bowel preparation (with or without antibiotic prophylaxis) was favoured for those undergoing diverting ileostomy (van’t Sant 2010; P-value NS), ileorectostomy or colocolostomy (Pena-Soria 2008; p-values NR). However, these differences were either not reported or not statistically significant. Additionally, the ileorectostomy and colocolostomy groups had very small numbers of patients.

Four RCTs (Bretagnol 2010; Contant 2007; Fa Si Oen 2005; Platell 2006) and one subgroup analysis (van’t Sant 2010) reported the rate of clinically significant or major anastomotic leakage with follow-up period ranging 24 days to 3 months. Two trials (Contant 2007; Fa Si Oen 2005) found no statistically significant differences between mechanical bowel preparation (with antibiotic prophylaxis) compared to no mechanical bowel preparation (with or without antibiotic prophylaxis) for clinically significant or major anastomotic leakage (p-values 0.64 and 0.78 respectively). In contrast, one trial found a trend towards mechanical bowel preparation (with antibiotic prophylaxis) experiencing lower rates of clinical anastomotic leakage than the group undergoing no mechanical bowel preparation (with antibiotic prophylaxis) (Platell 2006; MBP: 0.7% No MBP: 4.1%; OR=1.75, 95%CI 0.02-1.35, p=0.06). Similarly, another trial (Bretagnol 2010) reported lower rates of clinically significant anastomotic leakage for those undergoing mechanical bowel preparation (with antibiotic prophylaxis), however, the statistical significance was not reported (MBP: 7.0% No MBP: 16.0%). For the subgroup of those with diverting ileostomy, major anastomotic leakage rates were reduced given mechanical bowel preparation (with antibiotic prophylaxis), however, this was not statistically significant (van’t Sant 2010; MBP: 0.0%; No MBP: 4.8%; p-value reported as NS). This was not the case for those undergoing low anterior resection whereby group differences were marginal and not statistically significant (van’t Sant 2010; MBP: 6.0%; No MBP: 5.0%; p-value reported as NS).
Three RCTs (Bretagnol et al., 2010; Contant et al., 2007; Fa Si Oen et al., 2005) and one subgroup analysis (van’t Sant et al., 2010) reported asymptomatic or minor anastomotic leakage following mechanical bowel preparation (with antibiotic prophylaxis) compared to no mechanical bowel preparation (with or without antibiotic prophylaxis) with follow-up ranging 24 days to 3 months. The three RCTs as well as low anterior resection and diverting ileostomy subgroups (van’t Sant et al., 2010) were consistent in finding no statistically significant differences between mechanical bowel preparation (with antibiotic prophylaxis) compared to no mechanical bowel preparation (with or without antibiotic prophylaxis) for rates of asymptomatic or minor anastomotic leakage.

**Grade B**

**Surgical site/wound infection**

In total, thirteen RCTs and one subgroup analysis (van’t Sant 2010) reported surgical site or wound infection as outcomes when comparing mechanical bowel preparation (with antibiotic prophylaxis) to no mechanical bowel preparation (with or without antibiotic prophylaxis).

**Overall wound infection**

Seven RCTs (Platell 2006; Ram 2005; Contant 2007; Zmora 2006; Fa Si Oen 2005; Reddy 2007; Pena-Soria 2008) and one subgroup analysis (van’t Sant 2010) reported overall wound infection rates (mild-severe) between mechanical bowel preparation (with antibiotic prophylaxis) compared to no mechanical bowel preparation (with or without antibiotic prophylaxis) groups with follow-up 24 days to 42 days post-surgery. Five RCTs (Platell 2006; Ram 2005; Contant 2007; Zmora 2006; Fa Si Oen 2005) reported minimal between group differences which were not statistically significant (p-values ranging 0.61-0.82 or reported as NS). The subgroup analysis of patients undergoing low anterior resection (van’t Sant 2010) also reported no significant differences between groups for overall wound infection rates (rates NR). One trial (Reddy 2007) with four arms found that those who underwent mechanical bowel preparation with symbiotics and oral antibiotic prophylaxis (MBP I3) had reduced rates of wound infection compared to those undergoing mechanical bowel preparation only (MBP I1), mechanical bowel preparation with oral antibiotic prophylaxis (MBP I2) and those who only took symbiotics with oral antibiotic prophylaxis (MBP I1: 12.5% MBP I2: 13.6% MBP I3: 0.0% No MBP: 13.6%). However, these differences were not statistically significant and there were small numbers of patients in each arm. One trial (Pena-Soria 2008) reporting overall wound infection rates favoured no mechanical bowel preparation (with antibiotic prophylaxis) (MBP: 29.2% vs 17.2%, p-value reported as NS) which contrasted to a subgroup analysis of diverting ileostomy (van’t Sant 2010) reporting lower overall wound infection rates for those undergoing mechanical bowel preparation (with antibiotic prophylaxis) (MBP: 18.5%; 23.8%; p-
value reported as NS). However, both between group comparisons were not statistically significant while the diverting ileostomy subgroup analysis contained low numbers of patients in each arm.

**Infectious abdominal complications (superficial to deep/organ space)**

Two RCTs (Reddy 2007; Bretagnol 2007) reported infectious abdominal complications ranging from superficial to deep/organ space. One of the trials (Reddy 2007) with four arms found those that only took synbiotics and oral antibiotic prophylaxis had reduced rates of septic morbidity compared to those only undergoing mechanical bowel preparation (MBP1) or mechanical bowel preparation with oral antibiotic prophylaxis (MBP2) but minimally differed from those who underwent mechanical bowel preparation with synbiotics and oral antibiotic prophylaxis (MBP3) (MBP1: 20.8% MBP2: 18.2% MBP3: 15.0% No MBP: 13.6%; p=0.93). Conversely, the second trial (Bretagnol 2007) found mechanical bowel preparation (with antibiotic prophylaxis) to have lower rates of infectious abdominal complications than no mechanical bowel preparation (without antibiotic prophylaxis), however, significance was not reported (MBP: 17.0%; No MBP: 38.0%).

**Deeper abdominal, intra-abdominal or wound abscess**

Six RCTs (Contant 2007; Bhattacharjee 2015, Jung 2007; Platell 2006; Zmora 2006; Bretagnol 2010) and one subgroup analysis (van’t Sant 2010) reported deeper abdominal, intra-abdominal or wound abscess with follow-up ranging 24 days to 3.5 months. Six RCTs were consistent in reporting minimal to no difference between mechanical bowel preparation (with antibiotic prophylaxis) compared to no mechanical bowel preparation (with or without antibiotic prophylaxis) groups with no between group statistical significance (p-values ranging from 0.50-0.96). One trial (Bhattacharjee 2015) reported small between group differences in favour of no mechanical bowel preparation (with antibiotic prophylaxis) but was also not statistically significant (MBP: 7.9% vs No MBP: 3.0%, p=0.62). In contrast to the aforementioned trials, one RCT (Contant 2007) found statistically significant between group differences in favour of mechanical bowel preparation (with antibiotic prophylaxis) for the outcomes of overall intra-abdominal abscess (MBP: 2.2% vs No MBP: 4.7%; Difference=2.4 95%CI 0.5-4.4; p=0.02) and abdominal abscess with anastomotic leak (MBP: 0.3% vs No MBP: 2.5%; Difference=2.2 95%CI 0.9-3.4; p=0.001) within 24 days of surgery.

**Organ/space surgical site infection**

Two RCTs (Watanabe 2010; Pena-Soria 2008) reported organ/space surgical site infection rates within 30 days and one RCT (Sasaki 2012) reported intra-abdominal infection rates within 3.5 months but did not report complication level. The larger trial of the two RCTs reporting organ/space surgical site infections slightly favoured no mechanical bowel preparation (with antibiotic prophylaxis) but was not statistically
significant (Pena-Soria 2008; MBP: 4.6% No MBP: 0.0%; p-value reported as NS). In contrast, there were no between group differences in the second trial reporting organ/space surgical site infection rates (Watanabe 2010; MBP: 4.8% vs No MBP: 4.8%, p=NS) or the trial reporting intra-abdominal infection rates (Sasaki 2012; MBP: 2.6% vs No MBP: 2.4%, p=0.96).

**Mild or superficial surgical site/wound infection**

Seven RCTs (Pena-Soria 2008; Watanabe 2010; Bhattacharjee 2015; Sasaki 2012; Jung 2007; Contant 2007; Horvat 2010) and one subgroup analysis (van’t Sant 2010) reported mild or superficial surgical site/wound infection with follow-up ranging 24 days to 3.5 months after operation. There was consistency between three RCTs (Contant 2007, Jung 2007; Sasaki 2012) and the subgroup analysis of those undergoing low anterior resection or diverting ileostomy (van’t Sant 2010) in that there were minimal to no differences between mechanical bowel preparation (with antibiotic prophylaxis) compared to no mechanical bowel preparation (with antibiotic prophylaxis) which were not statistically significant (only Contant 2007 reported numerical p-value of 1.0). The arms of mechanical bowel preparation (with antibiotic prophylaxis) compared to no mechanical bowel preparation (with synbiotics and antibiotic prophylaxis) in Horvat 2010 was also consistent with these studies (MBP: 5.0% No MBP C1: 5.0%, p-value not reported). Three RCTs (Bhattacharjee 2015; Pena-Soria 2008; Watanabe 2010) reported lower rates of superficial surgical site/wound infection for those that did not have mechanical bowel preparation (with antibiotic prophylaxis) with reductions ranging from 4.8%-10.7%. However, none of these differences were statistically significant (only Bhattacharjee 2015 reported a numerical p-value of 0.40) and two of these RCTs contained low numbers of patients in each arm (Watanabe 2010; Bhattacharjee 2015). These three RCTs share consistency with the second comparison made by Horvat 2010 of mechanical bowel preparation (with antibiotic prophylaxis) to no mechanical bowel preparation (with synbiotics and heat deactivated probiotics and antibiotic prophylaxis). In this study, those undergoing mechanical bowel preparation (with antibiotic prophylaxis) had a slightly greater rate of mild wound infection (MBP: 5.0%; No MBP C2: 0.0%; p-value not reported). However, each arm contained a low number of participants such that results should be interpreted cautiously.

**Severe wound infection/ subcutaneous wound disruption**

One RCT (Contant 2007) and one subgroup analysis of low anterior resection and diverting ileostomy patients (van’t Sant 2010) reported severe wound infection within 24 days post-operation and all were consistent in finding no statistically significant differences between mechanical bowel preparation (with antibiotic prophylaxis) compared to no mechanical bowel preparation (with antibiotic prophylaxis) (p=0.83 for Contant 2007 and was reported as NS for van’t Sant 2010). A further RCT (Jung 2007) reported subcutaneous wound disruption rates and also found no significant
differences between groups (MBP: 1.2%; No MBP: 2.0%; p-value reported as NS).

Wound dehiscence
One RCT (Ram 2005) that reported wound dehiscence within 6 weeks post-operation and one subgroup analysis (van’t Sant 2010) of low anterior resection reporting fascia dehiscence within 24 days post-operation were consistent in reporting minimal between group differences which were not statistically significant (p-values reported as NR and 0.61 respectively). In contrast the subgroup analysis of diverting ileostomy (van’t Sant 2010) reported fascia dehiscence to be reduced for the no mechanical bowel preparation (with antibiotic prophylaxis) group 24 days after surgery but this was not statistically significant (MBP: 7.4%; No MBP: 0.0%; p-value reported as NS). However, there were a low number of patients in each arm of the diverting ileostomy subgroup analysis such that results should be interpreted with caution.

Grade B

Ileus
Five RCTs (Fa Si Oen 2005; Jung 2007; Ram 2005; Sasaki 2012; Watanabe 2010) reported the outcome of ileus when comparing mechanical bowel preparation (with antibiotic prophylaxis) to no mechanical bowel preparation (with or without antibiotic prophylaxis). Three of these trials (Jung 2007; Ram 2005; Sasaki 2012) reported rate of postoperative ileus ranging from 30-105 days after surgery and were consistent in finding none or negligible differences between groups and no study was statistically significant (p-values ranging 0.25-0.35). Another trial (Fa Si Oen 2005) reported the mean duration of ileus after surgery between groups and also found no significant between group differences (MBP: 5.0 vs No MBP: 4.7 days; p=0.25). One trial (Watanabe 2010) reported rate of paralytic ileus within 30 days and differed to the aforementioned trials in finding a greater rate of paralytic ileus in those undergoing mechanical bowel preparation (MBP: 9.5% vs No MBP: 0.0%; p-value NS). However, this trial was also not statistically significant and was the smallest trial out of all RCTs reporting ileus such that results should be interpreted cautiously.

Grade B

Length of hospital stay
Eleven RCTs reported length of hospital stay as an outcome for mechanical bowel preparation (with antibiotic prophylaxis) compared to no mechanical bowel preparation (with or without antibiotic prophylaxis). Five trials (Contant 2007; Jung 2007; Platell 2006; Ram 2005; Zmora 2006) reported less than a day difference between arms with no statistically significant differences (p-values ranging 0.4-0.73). Four of these trials reported mean length of hospital stay while one (Contant et al., 2007) reported median days. Four trials (Bretagnol 2010; Fa Si Oen 2005, Horvat 2010; 2005; Krebs 2016) reported one day difference between arms but were not statistically significant (p-values ranging 0.15-0.97) with all but one trial (Horvat 2010)
reporting median days in hospital. Two of these six trials (Horvat 2010; Krebs 2016) contained two comparators which led to lower numbers of patients in each arm. One further trial (Sasaki 2012) reported a 4.4 median day difference between arms which favoured no mechanical bowel preparation and similarly another trial (Watanabe 2010) also favoured no mechanical bowel preparation with a two day mean difference between arms, however, differences between groups in both trials were not statistically significant (p-values 0.28 and 0.17, respectively). These latter two trials also contained lower patient numbers such that results should be interpreted cautiously.

Grade B

Combined outcomes
One RCT (Fa Si Oen 2005) reported combined anastomotic leak and wound infection rates within 3 months of surgery and found no difference between mechanical bowel preparation (with antibiotic prophylaxis) compared to no mechanical bowel preparation (with or without antibiotic prophylaxis) groups (MBP: 2.4% vs No MBP: 1.6%; RR=0.67 95%CI 0.11-3.92; p=0.65). This was also the finding of another RCT (Zmora 2006) that reported combined infectious complications including anastomotic leak, abdominal abscess and wound infection within 30 days of surgery (MBP: 12.4% vs No MBP: 13.0%; p-value reported as NS).

Grade A

3. Clinical impact  See body of evidence tables in report - p value (95% CI), size of effect rating and relevance of evidence (Indicate in the space below if the study results varied according to some unknown factor (not simply study quality or sample size) and thus the clinical impact of the intervention could not be determined)

Anastomotic leakage/dehiscence
Of the 10 RCTs and subgroup analysis reporting overall anastomotic leakage or dehiscence rates, only one trial (Bretagnol 2010) that included rectal cancer patients reported a trend in statistical significance and found anastomotic leakage to be reduced by 8% for those undergoing mechanical bowel preparation with antibiotic prophylaxis (p=0.09). However, this reduction is not clinically significant and this was a smaller trial than most that found none to negligible differences between mechanical bowel preparation (with antibiotic prophylaxis) to no mechanical bowel preparation (with or without antibiotic prophylaxis). Similarly, out of four RCTs reporting clinically significant or major anastomotic leakage, only one RCT (Platell 2006) found a trend towards lower rates for mechanical bowel preparation (with antibiotic prophylaxis) (MBP: 0.7% No MBP: 4.1%; OR=1.75, 95%CI 0.02-1.35, p=0.06). Asymptomatic or minor anastomotic leakage rates were not statistically significantly different between mechanical bowel preparation (with antibiotic prophylaxis) compared to no mechanical bowel preparation (with or without antibiotic prophylaxis) groups when reported by

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<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
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<tr>
<td></td>
<td>Very large</td>
<td>Substantial</td>
<td>Moderate</td>
<td>Slight/Restricted</td>
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</table>
three RCTs and one analysis of low anterior resection and diverting ileostomy
subgroups (van’t Sant 2010).

There was no evidence to suggest that overall anastomotic leakage or dehiscence
rates differed between mechanical bowel preparation (with antibiotic prophylaxis)
compared to no mechanical bowel preparation (with or without antibiotic prophylaxis)
for subgroups of patients undergoing low anterior resection, hand-sewn anastomosis,
stapled anastomosis, ileocolostomy, colorectostomy, diverting ileostomy, ileorectostomy
or colocolostomy. For major anastomotic leakage rates there was also no
statistically significant between group differences for diverting ileostomy and low
anterior resection subgroups.

Grade D

Surgical site/wound infection
Thirteen RCTs and one subgroup analysis (van’t Sant 2010) reported either overall
wound infection rates (mild-severe), infectious abdominal complications (superficial-
deep/organ space), deeper abdominal, intra-abdominal or wound abscess, organ/space
surgical site infection, intra-abdominal infection, mild or superficial surgical site/wound
infection, severe wound infection or wound dehiscence rates when comparing mechanical
to no bowel preparation (with antibiotic prophylaxis) to no mechanical bowel
preparation (with or without antibiotic prophylaxis). Only one RCT (Contant 2007)
reported statistically significant outcomes favouring mechanical bowel
preparation (with antibiotic prophylaxis) for which overall intra-abdominal abscess was
reduced by 2.5% (MBP: 2.2% vs No MBP: 4.7%; difference=2.4 95%CI 0.5-4.4;
\(p=0.02\)) and abdominal abscess with anastomotic leak was reduced by 2.2% (MBP:
0.3% vs No MBP: 2.5%; Difference=2.2 95%CI 0.9-3.4; \(p=0.001\)) compared to the no
mechanical bowel preparation (with antibiotic prophylaxis) group. However, these
between group differences were not clinically significant.

Grade D

Ileus
There was no evidence to suggest that ileus rates differed between those undergoing
mechanical bowel preparation (with antibiotic prophylaxis) compared to no mechanical
bowel preparation (with or without antibiotic prophylaxis) with non-significant effects
indicating no consistent differences between groups.

Grade D

Length of hospital stay
There was no evidence to suggest that length of hospital stay differed between those
undergoing mechanical bowel preparation (with antibiotic prophylaxis) compared to
no mechanical bowel preparation (with or without antibiotic prophylaxis) with non-
significant effects indicating no consistent differences between groups. Any non-
significant differences that were found between arms were most likely due to low
number of patients in each arm.

This similarity between groups is evident across the six RCTs that reported mean
length of hospital stay for mechanical bowel preparation (with antibiotic prophylaxis)
compared to no mechanical bowel preparation (with or without antibiotic prophylaxis)
where the weighted mean difference between groups was only 0.1 days (MBP=8.15
days vs No MBP=8.25 days).

**Grade D**

**Combined outcomes**

There was no evidence to suggest that combined anastomotic leak and wound
infection rates or combined infectious complications (including anastomotic leak,
abdominal abscess and wound infection) differed between those undergoing
mechanical bowel preparation (with antibiotic prophylaxis) compared to no mechanical
bowel preparation (with or without antibiotic prophylaxis) with non-significant effects
indicating no consistent differences between groups.

**Grade D**

**4. Generalisability (How well does the body of evidence match the population and clinical settings being targeted by the Guideline?)** For study population characteristics see table of study characteristics in report

| A | Evidence directly generalisable to target population |
| B | Evidence directly generalisable to target population with some caveats |
| C | Evidence not directly generalisable to the target population but could be sensibly applied |
| D | Evidence not directly generalisable to target population and hard to judge whether it is sensible to apply |

Studies in this review were from a wide range of countries including Australia, India,
France, Netherlands, Slovenia, Sweden, Spain, Israel, United Kingdom and Japan.
Given that these studies are primarily from Western countries the evidence may be
somewhat generalisable to an Australian population, and quality of treatment for
colorectal cancer may be comparable. When mean/median age was reported in the
above trials, the large majority of participants in the mechanical bowel preparation
(with or without prophylaxis) group had mean/median ages from 65-69 years at
randomisation. For those in the non-mechanical bowel preparation (with or without
prophylaxis) group mean/median ages at randomisation was 62-69.

**Grade A**

**5. Applicability (Is the body of evidence relevant to the Australian healthcare context in terms of health services/delivery of care and cultural factors?)**

| A | Evidence directly applicable to Australian healthcare context |
| B | Evidence applicable to Australian healthcare context with few caveats |
| C | Evidence probably applicable to Australian healthcare |

One RCT (Platell 2006) is directly applicable to the Australian healthcare context as
this trial was conducted in Australia. Due to minimal barriers to access and cost of
mechanical bowel preparations and antibiotics across the countries of included
studies, the body of evidence would be directly applicable to the Australian healthcare.
Rural/regional Australian settings would not be a barrier in this case.
<table>
<thead>
<tr>
<th>Component</th>
<th>Rating</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Evidence base</td>
<td>D</td>
<td>Level II studies at high or unclear risk of bias</td>
</tr>
<tr>
<td>2. Consistency</td>
<td>B</td>
<td>Grade B – Anastomotic leakage/dehiscence</td>
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<tr>
<td></td>
<td>B</td>
<td>Grade B – Surgical site/wound infection</td>
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<td></td>
<td>B</td>
<td>Grade B – Ileus</td>
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<td></td>
<td>B</td>
<td>Grade B – Length of hospital stay</td>
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<td></td>
<td>A</td>
<td>Grade A – Combined outcomes</td>
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<tr>
<td>3. Clinical impact</td>
<td>D</td>
<td>Grade D – Anastomotic leakage/dehiscence</td>
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<td></td>
<td>D</td>
<td>Grade D – Surgical site/wound infection</td>
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<td></td>
<td>D</td>
<td>Grade D – Combined outcomes</td>
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<tr>
<td>4. Generalisability</td>
<td>A</td>
<td>Evidence directly generalisable to target population</td>
</tr>
<tr>
<td>5. Applicability</td>
<td>A</td>
<td>Evidence directly applicable to Australian healthcare context</td>
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</tbody>
</table>
**Evidence statements:**

- There is no significant difference in anastomotic leak rate when comparing patients who received MBP to no MBP, regardless of antibiotics administered.
- Overall surgical site infection rates are not significantly altered by the use of MBP, regardless of antibiotics taken. One study (Contant 2007) did show a significant reduction in the intra-abdominal abscess rate in patients who received MBP.
- Incidence and duration of postoperative ileus is not impacted by usage of MBP.
- There is no statistically significant difference in hospital stay associated with usage of MBP.

**RECOMMENDATION**

<table>
<thead>
<tr>
<th>What recommendation(s) does the guideline development group draw from this evidence? Use action statements where possible.</th>
<th>GRADE OF RECOMMENDATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mechanical bowel preparation should not be used routinely in colonic surgery. It can be used selectively according to individual patient and tumour characteristics, at the surgeon's discretion.</td>
<td>D</td>
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</table>

**PRACTICE POINT (CONSENSUS-BASED RECOMMENDATION)**

If there is no good quality evidence available but there is consensus among Guideline committee members, a consensus-based recommendation (practice point) can be given.

None.
Table 2: Unresolved issues

**UNRESOLVED ISSUES**

If needed, keep note of specific issues that arise when each recommendation is formulated and that require follow-up.

It is not clear if mechanical bowel preparation used in combination with preoperative oral antibiotics and intravenous antibiotics is associated with reduced rates of surgical site infection and anastomotic leak.

Table 3: Implementation of recommendation

**IMPLEMENTATION OF RECOMMENDATION**

Please indicate yes or no to the following questions. Where the answer is yes please provide explanatory information about this. This information will be used to develop the implementation plan for the guidelines.

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
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<tbody>
<tr>
<td>Will this recommendation result in changes in usual care?</td>
<td>NO</td>
</tr>
<tr>
<td>Are there any resource implications associated with implementing this recommendation?</td>
<td>NO</td>
</tr>
<tr>
<td>Will the implementation of this recommendation require changes in the way care is currently organised?</td>
<td>NO</td>
</tr>
<tr>
<td>Are the guideline development group aware of any barriers to the implementation of this recommendation? Surgeons who prefer routine mechanical bowel preparation may continue this practice.</td>
<td>NO</td>
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</table>