NAME OF THE MEDICINE
KLYX® Enema

Active ingredients per mL: Docusate sodium 1 mg/Sorbitol solution (70%) (crystallising) 357 mg

Structural formula:

Docusate

Sorbitol

C_{20}H_{37}NaO_{7}S
MW: 444.56
CAS no: 577-11-7

C_{6}H_{14}O_{6}
MW: 182.2
CAS no: 50-70-4

DESCRIPTION
KLYX Enema contains docusate sodium 1 mg/mL and sorbitol solution (70 per cent) (crystallising) 357 mg/mL as the active ingredients. It also contains methyl hydroxybenzoate and propyl hydroxybenzoate as preservatives, sodium hydroxide and hydrochloric acid for pH adjustment, and water-purified. It is a clear, colourless, slightly foamy solution.

PHARMACOLOGY
Pharmacodynamic properties
KLYX Enema is a dual action laxative enema that works locally in the colon. It contains the osmotic laxative sorbitol, which increases the water content of the distal large bowel lumen, and the stool softener laxative docusate, which acts by facilitating fluid penetration into faeces which soften stools, promotes defecation and bowel cleansing. The onset of action of KLYX Enema is rapid, normally within 5-10 minutes, with the full effect usually occurring within 20 minutes. The enema acts locally. There is no interference with normal reflexes.

Pharmacokinetic properties
Sorbitol, a sugar alcohol, is poorly absorbed from the gastrointestinal tract after oral or rectal use. Docusate sodium is a surfactant and its absorption from rectal preparations is also expected to be limited.

KLYX Enema is typically retained in the rectum for only 5 to 10 minutes before defecation occurs. Therefore, the short contact time of the enema in the rectum further limits the scope for absorption of the two active ingredients.

CLINICAL TRIALS
Faecal Impaction/Constipation
Bekkali, et al., (2009) assessed the efficacy and safety of KLYX Enema verses orally administered polyethylene glycol (PEG) 3350 with electrolytes in a randomised, controlled trial in 90 children and adolescents (4 to 16 years) with evidence rectal
faecal impaction (RFI) on rectal examination and functional constipation persisting for ≥ 8 weeks. Patients were randomised to receive KLYX Enema once daily for 6 consecutive days (60 mL for children <6 years of age and 120 mL for children ≥ 6 years of age) (n=46) or orally administered PEG 3350 with electrolytes once daily for 6 consecutive days (1.5 g/kg) (n=44). The primary outcome, successful disimpaction, was achieved in 80% of patients receiving KLYX and 68% of patients receiving PEG 3350 with electrolytes (P=0.28, not significant). Bowel habits and gastrointestinal symptoms information is provided in Table 1 below:

Table 1. Bowel Habits and Gastrointestinal Symptoms After 6 Days of Disimpaction and at Follow-up Evaluation (2 Weeks After Disimpaction).

<table>
<thead>
<tr>
<th></th>
<th>Disimpaction</th>
<th>Follow-up Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Enema n=46</td>
<td>PEG n=44</td>
</tr>
<tr>
<td><strong>Defecation frequency</strong></td>
<td>5.8 ± 3.6</td>
<td>8.8 ± 8.5</td>
</tr>
<tr>
<td>(mean ± SD), times per wk</td>
<td></td>
<td>0.64</td>
</tr>
<tr>
<td><strong>Faecal incontinence</strong></td>
<td>3.4 ± 4.3</td>
<td>13.6 ± 12.6</td>
</tr>
<tr>
<td>frequency, mean ± SD,</td>
<td></td>
<td>0.001</td>
</tr>
<tr>
<td>times per wk</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Abdominal pain, n</strong></td>
<td>21</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.33</td>
</tr>
<tr>
<td><strong>Watery stools, n</strong></td>
<td>10</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.001</td>
</tr>
</tbody>
</table>

Colon Evacuation
Ormarsson, et al., 2014 assessed the efficacy and safety of free fatty acids (FFA) suppositories (not available in Australia) for colon evacuation using KLYX Enema as a control treatment in a non-inferiority, single blind, randomised study in 53 outpatients undergoing flexible sigmoidoscopy. Patients were randomised to self-administer KLYX Enema (n=25), 120 mL the evening before and then again 2 hours before the sigmoidoscopy or FFA suppositories (n=28), two suppositories, the evening before, and then again 2 hours before the sigmoidoscopy. The main outcomes measured were quality of the bowel cleansing, height of scope insertion and safety. The mean height of scope insertion for the KLYX group was 48 cm (SD=10.4) compared to the 43 cm (SD=13.4) for the FFA group (p=0.09, not significant). The overall endoscopic view as rated by the physician is shown in Figure 1. Time until urge for bowel movement and time until bowel movement (min) are listed in Table 2 below. No serious side effects such as toxic reaction or irritation were observed in either group.
Figure 1. The overall endoscopic view as rated by the physician (p=0.054, not significant).

Table 2. Time until the urge for bowel movement and time until bowel movement after administration of FFA suppositories or KLYX Enema.

<table>
<thead>
<tr>
<th></th>
<th>Free Fatty Acid Suppositories</th>
<th></th>
<th>KLYX Enema</th>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>First Application</td>
<td>Second application</td>
<td>First Application</td>
<td>Second application</td>
</tr>
<tr>
<td>Time until urge for bowel movement (min)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1–5</td>
<td>1</td>
<td>7</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td>5–10</td>
<td>4</td>
<td>3</td>
<td>10</td>
<td>11</td>
</tr>
<tr>
<td>10–30</td>
<td>7</td>
<td>3</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>&gt;30</td>
<td>7</td>
<td>4</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>No urge</td>
<td>9</td>
<td>11</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Time until bowel movement (min)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1–5</td>
<td>0</td>
<td>3</td>
<td>4</td>
<td>9</td>
</tr>
<tr>
<td>5–10</td>
<td>1</td>
<td>3</td>
<td>13</td>
<td>13</td>
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<td>10–30</td>
<td>6</td>
<td>5</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>&gt;30</td>
<td>9</td>
<td>7</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>No bowel movement</td>
<td>12</td>
<td>10</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>
INDICATIONS
Treatment of faecal impaction/constipation, on the recommendation of a medical practitioner, where oral therapies have been found to be inadequate or inappropriate.

Colon evacuation prior to medical procedures such as surgery or endoscopy, where oral therapies are inappropriate.

CONTRAINDICATIONS
- Known hypersensitivity to any ingredients of the product
- Bleeding or inflammation of the intestinal tract including haemorrhoids or anal fissures
- Abdominal pain of unknown origin
- Intestinal obstruction.

PRECAUTIONS
Patients should be advised to drink plenty of water and to increase fibre in diet except in cases of medication-induced constipation (e.g. with codeine).

Patients should be advised to seek medical advice if symptoms persist.

The use of enemas may damage the intestinal wall. Long-term frequent use of KLYX Enema could lead to electrolyte disturbances. Therefore, KLYX Enema should only be used on a short-term basis for up to one week.

Prolonged use of laxatives is undesirable and may lead to dependence.

Effects on fertility
Based on long-term clinical experience, no effect has been demonstrated.

Use in pregnancy (Category A)
Based on long-term clinical experience, no effect has been demonstrated.

Use in lactation
Based on long-term clinical experience, no effect has been demonstrated.

Paediatric use
Use only in children 4 years of age and over.

Use in the elderly
Falls in blood pressure and bradycardia have been reported in the elderly.

Genotoxicity
This information is not available.

Carcinogenicity
This information is not available.

Effect on laboratory tests
This information is not available.
INTERACTIONS WITH OTHER MEDICINES
None known.

ADVERSE EFFECTS
Long-term frequent use may lead to irritation of the intestinal tract for a longer period and electrolyte disturbances. Isolated cases of urticaria and anaphylactic reaction have been reported. Abdominal pain and discomfort has also been reported. Slight discomfort and fatigue may occur in a few subjects. Fall in blood pressure and bradycardia have been seen in the elderly. Anorectal pain or bleeding have occasionally occurred after rectal doses.

DOSAGE AND ADMINISTRATION
Dosage:
KLYX Enema should be administered rectally when required. If clinically required, treatment can be repeated once a day for up to maximum of 2 days for colon evacuation and 6 days for constipation or faecal impaction.

Adults and children 12 years and over:
Normally 120 mL is effective.

Children from 4 to 6 years:
Normally 60 mL is effective.

Children from 7 to 11 years:
60 mL may be effective but up to a maximum 120 mL may be necessary.

Administration:
The solution is recommended for use at a time of the day recommended by the treating doctor, or when best suited for the intended indication. When used prior to medical procedures, administration 1-2 hours before the procedure is suitable.

Remove the protective cap from the KLYX Enema before inserting. Gently insert the enema tip deep into the rectum. Empty the required dose into the colon by squeezing the bottle. The bottle should remain compressed while the tip is removed from the rectum.

Discontinue use if resistance is encountered. Forcing the enema can result in injury. KLYX Enema should be retained in the rectum until defecation occurs. Defecation usually occurs within 5-20 minutes.

Any unused portion of the enema solution should be discarded.

OVERDOSAGE
Contact the Poisons Information Centre on 131126 for advice.

PRESENTATION AND STORAGE CONDITIONS
KLYX is a single patient use enema supplied in a one-piece plastic bottle. It is available in 120 mL in packs of 1 and 10*.  
*Not all presentations may be marketed
NAME AND ADDRESS OF SPONSOR
Ferring Pharmaceuticals Pty Ltd
Suite 2, Level 1, Building 1
20 Bridge Street
Pymble NSW 2073
Australia

POISONS SCHEDULE OF THE MEDICINE
Not scheduled

DATE OF FIRST INCLUSION IN THE AUSTRALIAN REGISTER OF THERAPEUTIC GOODS (ARTG)
11 April 2017

DATE OF MOST RECENT AMENDMENT
11 April 2017

KLYX® is a registered trademark of Ferring B.V.

References: