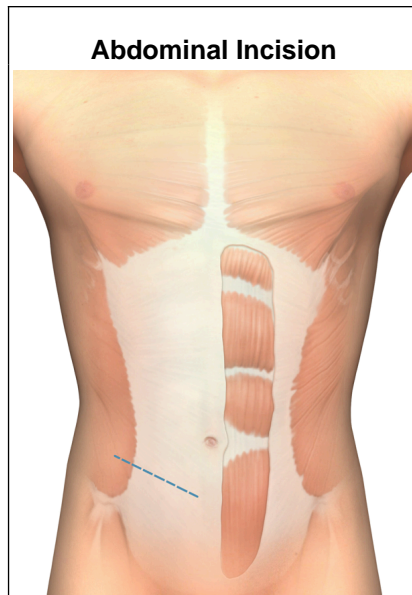


Introduction

The purpose of this study was to compare complication rates of baclofen pump placement using a low transverse abdominal incision with complication rates of standard approaches

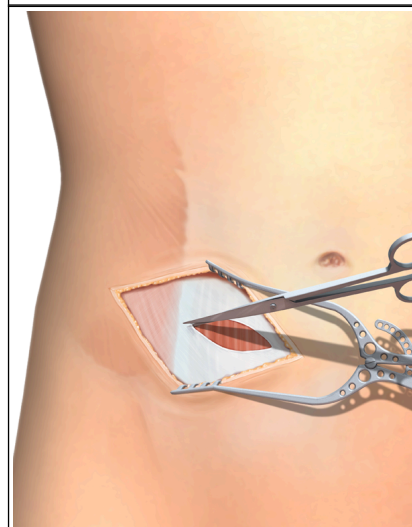
Methods

This retrospective study included all patients at Children's Hospital (TCH, Denver/Aurora CO) who underwent subfascial pump implantation from 2000 to 2008 and examined pre- and postoperative Ashworth scales as well as surgical complication rates. These values were examined in the population as a whole and between patient populations of two pediatric neurosurgeons. Only one of these surgeons used the low transverse abdominal incision, but otherwise surgical procedure and pre- and postoperative management were similar between the two groups. These rates were then compared to the literature using a Pub-Med database search for articles published in English that looked at intrathecal baclofen(ITB)-associated complications in pediatric and adult patients. 41 of the 147 articles retrieved were reviewed.

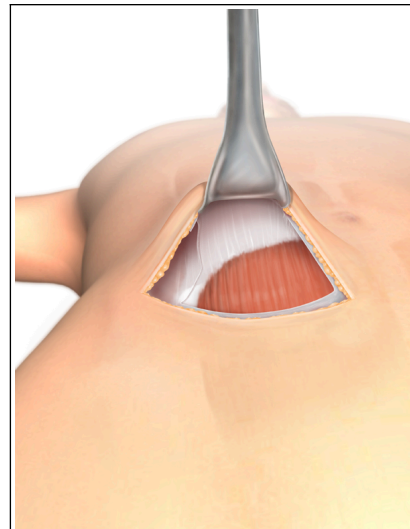


Abdominal Incision

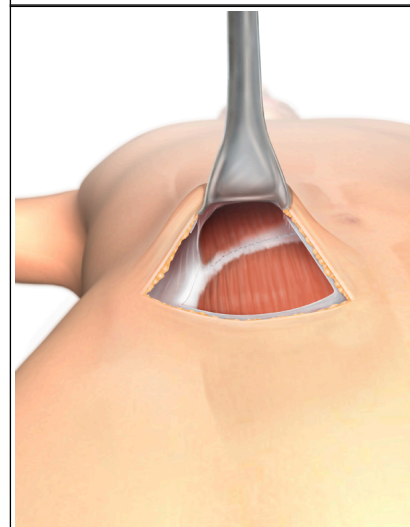
The abdominal incision can be made in the left or right lower quadrant and is approximately 8.5 cm long, just long enough for a pump to fit through.



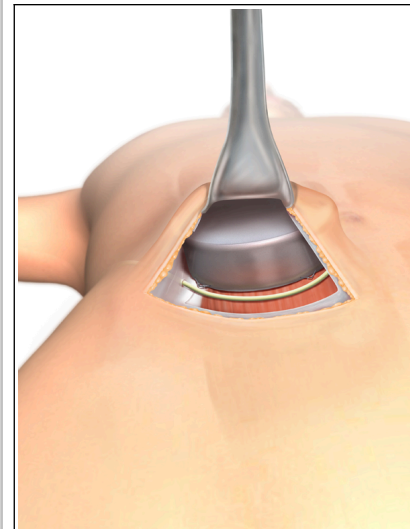
Anterior rectus sheath and outer fascia of the internal oblique muscle are incised.



Superiorly, a space is dissected between fascia and underlying muscles. Inferiorly, dissection extends only as needed to allow fascial reclosure.



Tendinous insertions of the rectus into anterior rectus sheath are cut, sparing the muscle



The pump is seated in the pocket with the side access port superior

Results

Overall, 13 complications were reported in 45 implants (0.28). The complication rate was 0.46 for the standard TCH approach and 0.3 using the low transverse approach ($p < 0.06$). The rate of infection/wound breakdown was 0.11 for the standard TCH approach and 0.1 for low transverse approach. The rate of complication involving the pump was 0.08 using the standard TCH approach and 0.1 using the low transverse approach.

The rate of complication involving the catheter was 0.1 using the standard TCH approach and 0.13 using low transverse approach. These numbers were then compared to the overall rates in the literature, average 0.38-0.41 per implant. Within these studies an average of 0.07 failures were pump-related, 0.66 catheter-related and 0.15 infection-related.

Conclusions

The low transverse abdominal incision has a similar overall complication rate to standard ITB implantation approaches for pump-related and infectious complications when compared within the same institution and with the literature. As patients with spasticity approach teenage years the cosmetic effect of the pump on their psychological well being becomes important and the low transverse approach is less noticeable and improves overall well being.

