INTRODUCTION
Management of complex pancreaticoduodenal injuries in children are uncommon and literature describing management and outcomes are sparse.

Prior Reports Adult Reports
- Damage controlled surgery can salvage pancreatic injury patients in up to 45% of cases. Krige et al. Eur J Trauma Surg. 2017
- Pancreatoduodenectomy is a life saving procedure in a small cohort of stable patients. Krige et al. HPB. 2014
- Patients with severe pancreaticoduodenal trauma should undergo damage control laparotomy and staged repair. Thompson et al. J Trauma Acute Care Surg. 2013

OBJECTIVE
In this study we aim to report our experience with children who undergo operative exploration for severe pancreaticoduodenal injuries in children.

METHODS
We performed a single center retrospective review of all children (age ≤ 18 yrs) identified from a single institution trauma registry admitted with a pancreatic or duodenal injury.

Inclusion Criteria:
- Operative exploration for injury to duodenum and/or pancreatic head

Exclusion Criteria
- Injuries limited to pancreatic tail

RESULTS
170 Children presented with a pancreatic or duodenal injury to our center.
- 160 (94%) required admission to the hospital
- 90 (53%) required admission to the ICU
- Median age 8.45 years, Median ISS =16
- 14/170 (8.2%) required surgery for a pancreatic injury
- 11/170 (6.4%) required surgery for a duodenal injury
- 5/170 (2.9%) required surgery for a pancreaticoduodenal injury

All 5 children with a complex pancreaticoduodenal injury underwent damage control laparotomy
- 3 (60%) were salvaged with a staged approach
- All three recovered without significant morbidity
  - No pancreatic or anastomotic leaks

Complex Pancreaticoduodenal Injuries are infrequent in children.
- They are associated with high ISS and associated high rate of mortality
- Some children may be salvaged with a staged approach to operative repair

Further multi-center studies are needed to better characterize management and outcomes of these children.

TABLE 1. Operative Pancreaticoduodenal Injuries

<table>
<thead>
<tr>
<th>Pancreaticoduodenal Injuries (n=5)</th>
<th>Age, years (median, Range)</th>
<th>4.2 (1.3-10.7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender (% male)</td>
<td>40%</td>
<td></td>
</tr>
<tr>
<td>ISS (median, range)</td>
<td>38 (26 – 54)</td>
<td></td>
</tr>
<tr>
<td>Revised Trauma Score 2 (median, range)</td>
<td>2.9 (2.9-7.6)</td>
<td></td>
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<tr>
<td>GCS (median, range)</td>
<td>3 (3-15)</td>
<td></td>
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<tr>
<td>Associated Injury</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TBI</td>
<td>1 (20%)</td>
<td></td>
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<tr>
<td>Liver</td>
<td>2 (40%)</td>
<td></td>
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<tr>
<td>Spleen</td>
<td>2 (40%)</td>
<td></td>
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<tr>
<td>Mechanism</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Case #1</td>
<td>Child Abuse</td>
<td></td>
</tr>
<tr>
<td>Case #2</td>
<td>Fall</td>
<td></td>
</tr>
<tr>
<td>Case #3</td>
<td>Child Abuse</td>
<td></td>
</tr>
<tr>
<td>Case #4</td>
<td>Motor Vehicle Accident</td>
<td></td>
</tr>
<tr>
<td>Case #5</td>
<td>Child Abuse</td>
<td></td>
</tr>
</tbody>
</table>

Operative Exploration
- Case #1 - Resection of 2nd/3rd portion of duodenum - Staged, Mortality
- Case #2 - Pancreatoduodenectomy – Staged, Discharged d to home
- Case #3 - Duodenectomy – Staged, Discharged to home
- Case #4 - Pancreatoduodenectomy, Staged, Discharged to home
- Case #5 – Subtotal Pancreatoduodenectomy, Staged

Intensive Care Unit Admission 100%
Mortality 40%
Length of Stay (Survivors), days (median, range) 34 (29-52)

CONTACTS
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