Solid organ injury is any blunt or penetrating injury to the solid organs within the abdomen, including the liver, spleen and kidneys. Injuries are graded I-V by severity, with Grade I being least severe and Grade V being most severe. The American Pediatric Surgical Association supports non-operative management of pediatric patients who suffer solid organ injury, with the exception of patients who show clinical signs of ongoing bleeding after initial resuscitation.

This tool applies to patients who were initially treated at a hospital for solid organ injury and present at the primary care office for follow-up.

**ASSESSMENT**

Perform standard history and physical examination (HPE). Perform an abdominal exam with visualization and palpation. It is likely that the child will have some tenderness to palpation, but tenderness should be improving since hospital discharge.

**HPE (HISTORY AND PHYSICAL EXAM) RED FLAGS**

- Abdominal distention, rigidity, tenderness and/or guarding on palpation
- Diarrhea
- Fevers
- Nausea/vomiting
- Not tolerating PO intake
- Persistent abdominal pain
- Requiring extension of narcotic medication treatment (a narcotic may have been prescribed at hospital discharge for a very short course)
- Significant pain not explained by current findings

**MANAGEMENT/TREATMENT**

If no HPE red flags, continue activity instructions based on grade of injury. Calculate activity restrictions using the grade of injury plus 2 weeks. For example, a grade II liver laceration will have 4 weeks of activity restrictions. For multiple solid organ injuries, advance one grade from the highest grade injury.

Encourage strict adherence to activity restrictions, which include the following:

- No sports or contact activities
- No activities where both feet leave the ground
- No wheeled activities
- No heavy lifting

Acetaminophen only for the length of activity restrictions—avoid NSAIDs.

Follow-up imaging is not needed for liver or spleen injuries unless indicated in hospital discharge instructions. Trauma clinic providers will order follow-up renal ultrasounds 4–6 weeks after all kidney injuries. Additionally, perform a blood pressure screening for all patients with kidney injuries during annual well-child visits.

For urgent issues or to speak with the specialist on call 24/7, call the Physician Priority Line at 1-888-987-7997.

If you would like additional copies of this tool, or would like more information, please contact the Physician Outreach and Engagement team at Cincinnati Children’s.
Solid Organ Injury Follow-Up

**Assessment**
Perform standard history and physical examination (HPE), including abdominal exam with visualization and palpation.

### HPE (HISTORY AND PHYSICAL EXAM) RED FLAGS

- Abdominal distention, rigidity, tenderness and/or guarding on palpation
- Diarrhea
- Fevers
- Nausea/vomiting
- Not tolerating PO intake
- Persistent abdominal pain
- Requiring extension of narcotic medication treatment (a narcotic may have been prescribed at hospital discharge for a very short course)
- Significant pain not explained by current findings

**Any Red Flags?**

- **Yes**
  - If concerned for diarrhea, fevers, nausea/vomiting or persistent abdominal pain, refer to Cincinnati Children’s Trauma Clinic at 513-636-8556.

- **No**
  - Continue activity instructions based on grade of injury. Calculate activity restrictions using the grade of injury plus 2 weeks. For example, a grade II liver laceration will have 4 weeks of activity restrictions. For multiple solid organ injuries, advance one grade from the highest grade injury.
  - Encourage strict adherence to activity restrictions, which include the following:
    - No sports or contact activities
    - No activities where both feet leave the ground
    - No wheeled activities
    - No heavy lifting
  - Acetaminophen only for the length of activity restrictions—avoid NSAIDs.

**Other Red Flags?**

- Contact the Trauma Service.
  - Monday–Friday business hours: Page the trauma nurse practitioner at 513-736-2082.
  - After hours and weekends: Call Physician Priority Line at 1-888-987-7997 and ask to speak with the PPL pediatric surgeon on call.

**Emergent Concerns?**

- Contact 513-636-XFER for PPL for an Emergency Department referral.

For urgent issues, or to speak with the specialist on call 24/7, call the Physician Priority Link® at 1-888-987-7997.