

# Guideline



## CCHMC Trauma Service Guidelines

Title: Management of Liver/Spleen Injury

Effective Date: 06/2018

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### 1.0 SCOPE

- 1.1. Care of the Trauma Services Patient at CCHMC.
- 1.2. This is the recommended guideline for any patient with suspected or confirmed injury to the liver and/or spleen.

### 2.0 DEFINITIONS

- 2.1. **Injury Grade:** Defined by the American Association for the Surgery of Trauma's organ injury scale.
- 2.2. **Liver/Spleen Injury:** Any evidence on CT scan of injury to the liver or spleen.

### 3.0 GUIDELINE

#### 3.1. Grade I

- 3.1.1. Admit to: Floor
- 3.1.2. Estimated hospital length of stay: 1 day
- 3.1.3. Laboratory tests: Hematocrit: initial then 12 hours post-injury
- 3.1.4. Clinical assessment and monitoring:
  - a. Vital signs every 2 hours x 8 hours, then every 4 hours
  - b. Strict I&O
- 3.1.5. Treatments and procedures: Incentive spirometry as need
- 3.1.6. Intravenous fluids(IV): Maintenance IV, then saline well once tolerating PO
- 3.1.7. Medications: Tylenol 15mg/kg PO/IV every 4 hours as needed for pain
- 3.1.8. Nutrition/Diet:
  - a. NPO x 6 hours, then
  - b. Advance diet as tolerated
- 3.1.9. Activity:
  - a. Bedrest x 6 hours, then
  - b. Up ad lib
- 3.1.10. Pre-discharge/Post-discharge imaging: None
- 3.1.11. Time of activity restrictions post-injury for "normal" age-appropriate activities: 3 weeks
- 3.1.12. Time of restricted activity post-injury for full-contact competitive sports: 6 weeks
- 3.1.13. Return to school: 1 week
- 3.1.14. Follow-up clinic visit: 1-2 weeks

#### 3.2. Grade II

- 3.2.1. Admit to: floor
- 3.2.2. Estimated hospital length of stay: 2 days
- 3.2.3. Laboratory tests: Hematocrit: initial then 12 hours and 24 hours post-injury
- 3.2.4. Clinical assessment and monitoring:
  - a. Vital signs every 2 hours x 8 hours, then every 4 hours
  - b. Strict I&O
- 3.2.5. Treatments and procedures: Incentive spirometry as needed
- 3.2.6. Intravenous fluids(IV): Maintenance IV; saline well once tolerating PO
- 3.2.7. Medications:
  - a. Mild pain: Tylenol 15mg/kg PO/IV every 4 hours as needed
  - b. Moderate pain: Oxycodone 0.1mg/kg PO every 4 hours as needed (max dose 10 mg)
  - c. Severe pain: Morphine 0.1mg/kg IV every 2-4 hours as needed
  - d. Stool softener: Colace/Miralax
- 3.2.8. Nutrition/Diet:
  - a. NPO x 12 hours, then
  - b. Advance diet as tolerated
- 3.2.9. Activity:
  - a. Bedrest x 12 hours, then

- b. Up ad lib
- 3.2.10. Pre-discharge/Post-discharge imaging: None
- 3.2.11. Time of activity restrictions post-injury for "normal" age-appropriate activities: 4 weeks
- 3.2.12. Time of restricted activity post-injury for full-contact competitive sports: 8 weeks
- 3.2.13. Return to school: 1 week
- 3.2.14. Follow-up clinic visit: 1-2 weeks
- 3.3. Grade III
  - 3.3.1. Admit to: floor
  - 3.3.2. Estimated hospital length of stay: 3
  - 3.3.3. Laboratory tests: Hematocrit: initial then 12, 24, and 48 hours post-injury
  - 3.3.4. Clinical assessment and monitoring:
    - a. Vital signs every 2 hours x 8 hours, then every 4 hours
    - b. Strict I&O
  - 3.3.5. Treatments and procedures:
    - a. Incentive spirometry every 2 hours until fully ambulatory
  - 3.3.6. Intravenous fluids(IV): Maintenance IV, then saline well once tolerating PO
  - 3.3.7. Medications:
    - a. Mild pain: Tylenol 15mg/kg PO/IV every 4 hours as needed
    - b. Moderate pain: Oxycodone 0.1mg/kg PO every 4 hours as needed (max dose 10 mg)
    - c. Severe pain: Morphine 0.1mg/kg every 2-4 hours as needed
    - d. Stool softener: Colace/Miralax
  - 3.3.8. Nutrition/Diet:
    - a. NPO x 24 hours, then
    - b. Advance diet as tolerated
  - 3.3.9. Activity:
    - a. Bedrest x 24 hours, then
    - b. Up ad lib
  - 3.3.10. Pre-discharge/Post-discharge imaging: None
  - 3.3.11. Time of activity restrictions post-injury for "normal" age-appropriate activities: 5 weeks
  - 3.3.12. Time of restricted activity post-injury for full-contact competitive sports: 12 weeks
  - 3.3.13. Return to school: 1-2 weeks
  - 3.3.14. Follow-up clinic visit: 1-2 weeks
- 3.4. Grade IV/Grade V
  - 3.4.1. Admit to:
    - a. ICU x 24 hours or may admit to the floor based on hemodynamic stability
    - b. Transfer to floor when hemodynamically stable
  - 3.4.2. Estimated hospital length of stay: 4 days
  - 3.4.3. Laboratory tests: Hematocrit: initial then 6, 12, 24, and 48 hours post-injury
  - 3.4.4. Clinical assessment and monitoring:
    - a. Vital signs every 1-2 hours x 12-24 hours, then (may be Q2H if admitted to the floor and stable)
    - b. Vital signs every 4 hours
    - c. Strict I&O
  - 3.4.5. Treatments and procedures:
    - a. Incentive spirometry every 2 hours until fully ambulatory
    - b. Nasogastric tube and foley catheter as indicated
  - 3.4.6. Intravenous fluids(IV): maintenance IV, then saline well once tolerating PO
  - 3.4.7. Medications:
    - a. Mild pain: Tylenol 15 mg/kg PO/IV every 4 hours as needed
    - b. Moderate pain: Oxycodone 0.1mg/kg PO every 4 hours as needed (max dose 10 mg)
    - c. Severe pain: Morphine 0.1mg/kg IV every 2-4 hours as needed
    - d. Stool softener: Colace/Miralax
  - 3.4.8. Nutrition/Diet:
    - a. NPO x 24 hours, then
    - b. Advance diet as tolerated.
  - 3.4.9. Activity:
    - a. Bedrest x 48 hours, then
    - b. Up ad lib
  - 3.4.10. Pre-discharge/Post-discharge imaging: None
  - 3.4.11. Time of activity restrictions post-injury for "normal" age-appropriate activities: 6 weeks
  - 3.4.12. Time of restricted activity post-injury for full-contact competitive sports: 16 weeks

- 3.4.13. Return to school: 1-2 weeks
- 3.4.14. Follow-up clinic visit: 1-2 weeks

**4.0 REFERENCES**

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**5.0 APPROVALS**

All revisions of this guideline are approved by the Trauma Services Department. This guideline is reviewed every three years or sooner if deemed necessary. Policy authority for this document resides with the Trauma Service Department. This guideline is approved by the Trauma Services Manager and the Director of Trauma Services.

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