AAP SoOr Panel: Comanagement of the Pediatric Orthopedic Patient

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Disclaimers

- We have no relevant conflicts of interests to disclose

- We do not plan to discuss off-label use of any pharmaceuticals
Outline

• What is Comanagement?

• Why Comanagement?
  • Evidence
  • Lack of evidence

• How Does Comanagement Work?
  • Best practices – evolving
  • Service agreement
  • Billing

• Next steps
Comanagement in Hospital Medicine

Society for Hospital Medicine Definition:

“Shared responsibility, authority and accountability for the care of a hospitalized patient across clinical specialties”
REVIEW

Pediatric Hospitalist Comanagement of Surgical Patients: Structural, Quality, and Financial Considerations

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TABLE 1. Common Models of Comanagement*

<table>
<thead>
<tr>
<th>Model</th>
<th>Attending Service</th>
<th>Consulting Service</th>
<th>Automatic Consultation</th>
<th>Who Writes Orders?</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Surgery</td>
<td>Pediatrics</td>
<td>No</td>
<td>Surgery</td>
<td>Similar to “traditional” consultation</td>
</tr>
<tr>
<td>II</td>
<td>Surgery</td>
<td>Pediatrics</td>
<td>Yes</td>
<td>Usually surgery</td>
<td>Basic comanagement, consultant may sign off</td>
</tr>
<tr>
<td>III</td>
<td>Pediatrics</td>
<td>Surgery</td>
<td>Yes</td>
<td>Usually pediatrics</td>
<td>Basic comanagement, consultant may sign off</td>
</tr>
<tr>
<td>IV</td>
<td>Combined</td>
<td>N/A</td>
<td>N/A</td>
<td>Each service writes own</td>
<td>True comanagement, no sign-off from either service permitted</td>
</tr>
</tbody>
</table>

NOTE: Abbreviations: N/A, not applicable.

*Adapted from Mendelson and Friedman.20
## Why Comanagement?

<table>
<thead>
<tr>
<th>For the Patient</th>
<th>For the System/Physician</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality</td>
<td>Skills available</td>
</tr>
<tr>
<td>Safety (?)</td>
<td>Time for OR/clinic preserved</td>
</tr>
<tr>
<td>Parent satisfaction</td>
<td></td>
</tr>
<tr>
<td>Patient satisfaction</td>
<td></td>
</tr>
</tbody>
</table>
PHM 2015 Practice Management Track

EFFECTIVE
CoMANAGEMENT IN
PEDIATRIC HOSPITAL
MEDICINE, VERSION 2.0

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July 24, 2015
Pediatric Hospital Medicine
Comanagement Programs

• Comanagement programs vary across institutions and regions

• No single formula for creating effective comanagement program

• Programs evolve as roles, responsibilities, and hospital needs change

• Important general concepts
  • SHM Five Keys to Success
SHM Co-Management Task Force

Five Keys to Success
1. Identify obstacles and challenges
2. Clarify roles and responsibilities
3. Identify a champion
4. Measure performance
5. Address financial issues

• Important to build program
• Important to sustain/improve program and build professional relationships
Proposed Benefits of Comanagement

- Increased patient and nursing satisfaction
- Improved safety
  - May translate into decreased costs
- Improved outcomes
  - Pain management
  - Length of stay
Ethical issues:
Billing, Referrals, and Ultimate Responsibility

Opinion 8.043 - Ethical Implications of Surgical Co-Management

For the purpose of this report, the term “surgical co-management” refers to the practice of allotting specific responsibilities of patient care to designated caregivers. The following guidelines stem from this understanding:

1. Physicians should engage in co-management arrangements only to assure the highest quality of care.

2. When surgical co-management arrangements are made between duly licensed physicians, their responsibilities should be delineated according to the scope of the physicians’ expertise. Likewise, when physicians enter into surgical co-management arrangements with allied health professionals, each caregiver’s responsibility should correspond to his or her qualifications.

3. Even though different caregivers will be responsible for rendering specific portions of the patient’s care, a single physician should be ultimately responsible for ensuring that the care is delivered in a coordinated and appropriate manner. Other caregivers should support this obligation by communicating with this physician.

4. The treating physicians are responsible for ensuring that the patient has consented not only to take part in the surgical co-management arrangement but also to the services that will be provided within the arrangement. In addition to disclosing medical facts to the patient, the patient should also be informed of other significant aspects of the surgical co-management arrangement such as the credentials of the other caregivers, the specific services each will provide, and the billing arrangement.

5. Physicians should ensure that their surgical co-management arrangements do not violate the ethical or legal restrictions on self-referral.

6. Referrals to another caregiver should be based only on that caregiver’s skill and ability to meet the patient’s needs and not on expected further referral.
Risks of Comanagement

- Confusion around roles and responsibilities
- Miscommunication risks
- Insufficient skills in hospitalists
- Billing
- Impact on trainees
Which Patients, When and Where?
Pediatric Hospitalist-Surgeon Collaboration for Quality and Patient Care:

Example 1
Postoperative Spinal Fusion Pathways
Opportunity: Care Standardization/EBM

Postoperative Spinal Fusion Guidelines

- Problem: Inconsistent management
- Solution: Multidisciplinary standard (orthopedics, intensivists, nursing, hospitalists)
Figure 1 Timeline of pediatric hospitalist-surgical co-management and guideline and order set development and education for pediatric postoperative spinal fusion for nursing staff and orthopaedic and pediatric house staff (PH = pediatric hospitalist; M = module; L = lecture).
## Table 3  Unadjusted Bivariate Analysis and Multivariate Log-transformed Analysis of Length of Stay (LOS) in Days for Postoperative Spinal Fusion Pediatric Patients Before, During, and After Implementation of Pediatric Hospitalist Service-orthopaedics Collaboration

<table>
<thead>
<tr>
<th>Year</th>
<th>N</th>
<th>Phase of Intervention</th>
<th>Mean LOS, in d (SD)</th>
<th>Unadjusted difference LOS, in d (95% CI)</th>
<th>p-value</th>
<th>Adjusted* difference LOS, in d (95% CI)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>27</td>
<td>Pre</td>
<td>5.6 (1.6)</td>
<td>Ref</td>
<td></td>
<td>Ref</td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>28</td>
<td>Transition</td>
<td>5.4 (2.3)</td>
<td>-1.1 (0.8, 1.1)</td>
<td>0.329</td>
<td>-0.9 (-0.8, 1.1)</td>
<td>0.225</td>
</tr>
<tr>
<td>2011</td>
<td>28</td>
<td>Complete/Ongoing</td>
<td>4.6 (1.3)</td>
<td>-1.2 (-1.0, -1.4)</td>
<td>0.026</td>
<td>-0.8 (-0.7, -1.1)</td>
<td>0.039</td>
</tr>
</tbody>
</table>

*LOS, independent variable, log-transformed for analysis then back-transformed for ease of interpretation, adjusted for patient age, sex, and comorbidity.
Pediatric Hospitalist-Surgeon Collaboration for Quality and Patient Care: Preoperative Optimization/“Clearance” Clinics
Identification as Medically Complex

Preoperative Evaluation
- Primary Care Provider form
- Hospitalist Preop Visit if necessary
- Anesthesiology Evaluation
- Subspecialty Evaluation/Testing, if necessary

Postoperative Subspecialty Care?

Multidisciplinary meeting?

Further eval necessary?

Hospitalist/APN/Medical Subspecialist Consult Postoperatively
- active co-management of medical issues
- active use of EMR
- communication with PCP, specialists as necessary

Postpone/cancel surgery if necessary

Routine Surgical Preparation
Postoperative Consults

Hospitalist Consults: Underlying Diagnoses

- Cerebral palsy: 52%
- Metabolic/genetic disease: 16%
- Neuromuscular disease: 9%
- Skeletal: 6%
- Other: 17%
Outcomes

Outcomes and Costs Associated With Hospitalist Comanagement of Medically Complex Children Undergoing Spinal Fusion Surgery

implemented our program in phases (2003-5, 2005-6, 2006-present)

Post-PICU length of stay from 6 to 8 days (p=0.07)

Days on TPN, number of lab tests decreased significantly

Costs actually went up (might be PICU related)

$59K→89K→81K
Impact on Nurses

• Does having a pediatrician involved with medically complex patients improve nurse satisfaction?
AAP Surgical Care Subcommittee

- Section on Hospital Medicine Subcommittee
- Begun 2013
- Members:
  - Hospitalists
  - Surgeons: Orthopedists, Neurosurgeons, General
  - Coleads: Josh Abzug (SoOr), Becca Rosenberg, David Rappaport
- Mission: Identify gaps and explore effectiveness of comanagement in the management of the surgical pediatric patient, through research, education and collaboration
Future Directions

- Obtaining Data
  - Survey to surgeons regarding use and need for comanagement
  - Establishing protocols for comanagement
  - Discussion surrounding reimbursement
Cases
Case Examples

- **SCENARIO 1: A MEDICALLY COMPLEX ADOLESCENT WITH NEUROMUSCULAR SCOLIOSIS HAVING A POSTERIOR SPINAL FUSION**

- **Background Information:** 15 year old male, wheelchair dependent, with a history of HSV encephalitis that resulted in severe neurologic impairment including spastic quadraparesis requiring a baclofen pump, seizures, neuromuscular scoliosis, bilateral hip dislocation, restrictive lung disease, thrombus formation in the left lower extremity, GT dependence and chronic constipation. He presents to the preoperative clinic in preparation for a posterior spinal fusion scheduled in 2 weeks. He has otherwise been well with no recent illnesses. He is followed routinely by Neurologic, Orthopedic, Physical Medicine and Rehabilitation, and Pulmonary, specialists.
Case 1 – Discussion Points

- **Preoperative Evaluation**
  - Who does it?
  - How are findings/suggestions communicated?
  - Who implements medication changes/further work-up if needed?
  - Who assesses/ensures nutritional status adequate?
Case 1 – Discussion Points

- **Immediate Post-op Period**
  - PICU or no?
  - Who communicates medical information to PICU?
  - Who takes over medical care upon discharge from PICU?
  - Who assesses/ensures nutritional status adequate?
  - Who manages pain control?
Case 1 – Discussion Points

• **Postoperative Floor Management**
  • Who does it?
  • Who assumes care from the PICU?
  • Who does the dispo planning?
  • Who assesses/ensures nutritional status adequate?
  • Who manages complications?
    • Hospital acquired infection
    • Fluid shifts
    • Constipation
Case Examples

- **SCENARIO 2: A healthy 7 year old with a Type 3 supracondylar fracture you see in the office**

- **Background Information:** 7 year old female, fell off the monkey bars last night and went to an urgent care center. Diagnosed with a supracondylar fracture, splinted, and advised to follow-up with orthopaedics within 48 hours. The next day presents to your satellite clinic just after eating lunch. Patient is neurovascularly intact and comfortable.
Case 2 – Discussion Points

• Preoperative Evaluation
  • Who does it and when?
    • Direct admit vs. ER vs. Semi-elective procedure?
      • To who’s service?
      • Where – main pediatric hospital? Satellite community hospital?
  • How are findings/suggestions communicated?
Case 2 – Discussion Points

- **Immediate Post-op Period**
  - Who manages child?
  - Who takes care of medical issues should they arise?
    - Child noted to have some wheezing from asthma by the anesthesiologist
    - Who manages pain control?
    - Who assesses NV status?
Case 2 – Discussion Points

- **Postoperative Floor Management**
  - Who does it?
  - Who does the dispo planning?
  - Who rounds on child?
    - Next day is an OR day
    - Next day is a weekend
    - Next day your leaving to come to AAP NCE
  - Who manages complications?
    - Hospital acquired infection
    - Reaction to antibiotic
    - IV comes out