DISCHARGE CRITERIA FOR DAY SURGERY

Dr MAGASICH-AIROLA Natalia
Cliniques Universitaires Saint Luc
Bruxelles
Ambulatory surgery

- France:
  - 64% of all pediatrics surgeries
  - (only 42% in adults)

- USA:
  - 66% of all pediatrics surgeries

- Ideal for pediatric population:
  - Comorbidities rare
  - Simple procedures
  - Short time of separation from family

- Development following parental demand and economical concerns

- Increased flow of patients to optimised
Success of ambulatory surgery:

- Patient selection
- Surgery selection
- Anaesthetic management
- Prevention of complications

↓

- Rapid recovery and rapid “home readiness”
Table 1. Stages of Recovery

<table>
<thead>
<tr>
<th>Stage of recovery</th>
<th>Clinical definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early recovery</td>
<td>Awakening and recovery of vital</td>
</tr>
<tr>
<td></td>
<td>reflexes</td>
</tr>
<tr>
<td>Intermediate recovery</td>
<td>Immediate clinical recovery</td>
</tr>
<tr>
<td></td>
<td>Home readiness</td>
</tr>
<tr>
<td>Late recovery</td>
<td>Full recovery</td>
</tr>
<tr>
<td></td>
<td>Psychological recovery</td>
</tr>
</tbody>
</table>

Safe discharge

- Discharge from ambulatory setting should **not be time-based**
- Discharge criteria should be designed to minimize post-discharge risk of central nervous system and cardiorespiratory depression

**TIME BASED DISCHARGE**  ➔  **CLINICAL BASED DISCHARGE**

Practice guidelines for post anesthetic care by ASA 2002
For Adults

Determines Home Readiness

5 criteria

- Vital signs
- Activity level
- Nausea and vomiting
- Pain
- Surgical bleeding

9/10 for discharge

Marshall, Chung Curr Opin Anaest 1997
PED-PADSS

- Pediatric adaptation
- Same 5 criterias
  - Vital signs
  - Activity level
  - Nausea and vomiting
  - Pain
  - Surgical bleeding
- 9/10 for discharge and
  Parents did not wish to meet the anest
  Anest did not wish to see parents
- No hoarness or dyspnea

Biedermann at al, Annales Francaises d'anest réanimation 2014
**Activity Level**

- Adapted to age!
  - Baby doesn’t walk but has a basic tonus

- Regional anaesthesia
  - Central block (Caudal)
    - Insure regression of motor, sensory and sympathetic block before discharge
  - Peripheric block
    - Early discharge
    - Protection of sleepy limb
    - Use of crutches or splints
    - Information of precautions and risks

<table>
<thead>
<tr>
<th>Niveau d’activité : marche ou activité</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Démarche stable, sans étourdissement (activité normale)</td>
<td>2</td>
</tr>
<tr>
<td>Marche avec aide (ou activité réduite)</td>
<td>1</td>
</tr>
<tr>
<td>Marche impossible (hypotonie)</td>
<td>0</td>
</tr>
</tbody>
</table>
## Nausea and Vomiting

<table>
<thead>
<tr>
<th></th>
<th>Nausées et/ou vomissements</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>• Minimes</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>• Modérées</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>• Sévères (malgré un traitement)</td>
<td>0</td>
</tr>
</tbody>
</table>
Post-operative (nausea) and vomiting

- Significant problem in children (2X adult)
- No prophylaxis up to 59%
- Leading cause of unanticipated admission

Risk factors
Prevention
Treatment
### Risk factors for PONV in children

<table>
<thead>
<tr>
<th>Risk factors</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surgery ≥ 30 min.</td>
<td>1</td>
</tr>
<tr>
<td>Age ≥ 3 years</td>
<td>1</td>
</tr>
<tr>
<td>Strabismus surgery</td>
<td>1</td>
</tr>
<tr>
<td>History of PONV or PONV in relatives</td>
<td>1</td>
</tr>
</tbody>
</table>

**Sum = 0...4**

**Figure 34.1** Risk factors for PONV in children. Simplified risk score to predict the risk for PONV in children. When 0, 1, 2, 3 or 4 of the depicted independent predictors are present, the corresponding risk for PONV is approximately 10%, 10%, 30%, 55%, and 70%. Reproduced from Gan et al [111] with permission from Lippincott Williams and Wilkins.

**Double therapy**

**Monotherapy**
PONV prevention

* DEXAMETHASONE (0.05 to 0.15 mg/kg)
  * Only in prophylaxis
  * Action in pain

* DROPERIDOL (10 to 15 mcg/kg)
  * For prevention and treatment
  * Drowsiness

* ONDANSETRON (0.05 to 0.1 mg/kg)
  * Combined to dexamethasone for prevention
  * First choice for treatment
Pediatric Nausea assessment tool
PeNat Score
Validated for children 4-18 years

1 = absence of nausea
2 = uncomfortable
3 = some nauseas
4 = worst nauseas

Lee Dupuis et al. Pharmacotherapy 2006
Post-operative Pain

- First problem following return home
- Poorly managed at home
- Parental factors++
  - Ability to recognize and assess pain
  - Misconceptions about analgesics
- Child factors
  - Refusal to take medication
- System factors
  - Poor discharge instructions
  - Access to analgesics

Dorkham at al Ped Anest 2014
Post-operative Pain

- Systemics
  - Paracetamol
  - Ains

- ALR
  - Parents must be informed of the risk of pain rebound
  - Importance of systematic administration
Post operative Pain

- Pain should be evaluated by pain scales adjusted to the age
- OPS before 6 years
- VAS after 6 years
- FLACC scale
Is oral intake necessary before discharge?

- No longer a prerequisite prior to discharge home
- Schreiner at al Anesthesiology 1992
  - “Mandatory drinkers” or “elective drinkers”
  - Higher incidence of vomiting and prolonged hospital stay in the mandatory drinkers group
- Kearney et al Ped Anaest 1998
  - Free drinkers - drink after 4H -6H
  - Less vomiting in the withheld groups
- Only necessary in selected patients – case by case

ASA practice guidelines for postanesthesia care 2002
Is voiding necessary before discharge?

- Risk factors for postoperative urinary retention:
  - Spinal/epidural anaesthesia
  - History of urinary retention
  - Urological surgery
  - Perioperative catheterisation

- Patient with low risk can be discharged before voiding

- Children undergoing urological procedures (hypospadias or circumcision) should void before discharge

ASA practice guidelines for postanesthesia care 2002
**PED-PADSS**

- Pediatric adaptation
- Same 5 criteria:
  - Vital signs
  - Activity level
  - Nausea and vomiting
  - Pain
  - Surgical bleeding
- 9/10 for discharge and

Parents did not wish to meet the anest

Anest did not wish to see parents

No hoarness or dyspnea

Biedermann et al, Annales Francaises d’anest réanimation 2014
150 enfants inclus:

- 148 Ped-PADSS en accord avec anesth
- H+2 95% des patients ready to go home

Once criteria are met...

Fig. 1. Délais d’autorisation de sortie par l’anesthésiste-réanimateur, le chirurgien, le Ped-PADSS et de sortie effective des patients au cours du temps.
Evaluation of the pediatric post anesthesia discharge scoring system in an ambulatory surgery unit

Jean Benoit Moncel, Nicolas Nardi, Eric Wodey, Aline Pouvreau & Claude Ecoffey

- 1061 patients during 6 month
- Ped Padss at H+1 and H+2 in recovery room
- Gain of 69 min duration of post op stay

% of children dischargeable

97.2%  99.8%
Return Home

* Parents must receive **written** and **oral** instructions
  * Prescriptions of antalgics and other
  * Informations for pain control and surgical concerns
  * Planned follow-up
  * Report of intervention

ASA practice guidelines for postanesthesia care 2002
Conférence d'experts ADARPEF 2008
Return Home

- Escort home
- Private car (or taxi)
- Too adults for children under 10 years
Follow up

* Parents need a telephone number guaranteeing 24H access to the medical system in case of problem or emergency

* Phone call on the next working day by member of the team
  * Improvement of the service
  * Experience of empathic care for families
Conclusion

- Increasing flow of pediatric patients in ambulatory surgery
- Need for safe and objectif clinical criterias for discharge
- Ped-PADSS
- PONV and Pain are major concerns (Prevention!)

As Physicians, our first concern is Safety and patient satisfaction. Economical pression should not influence our decisions.