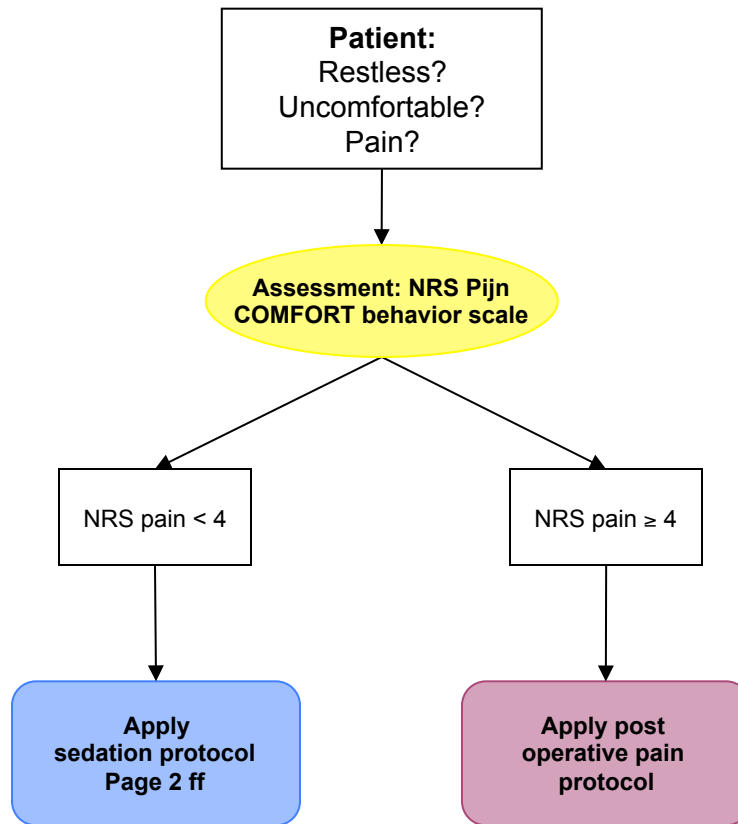


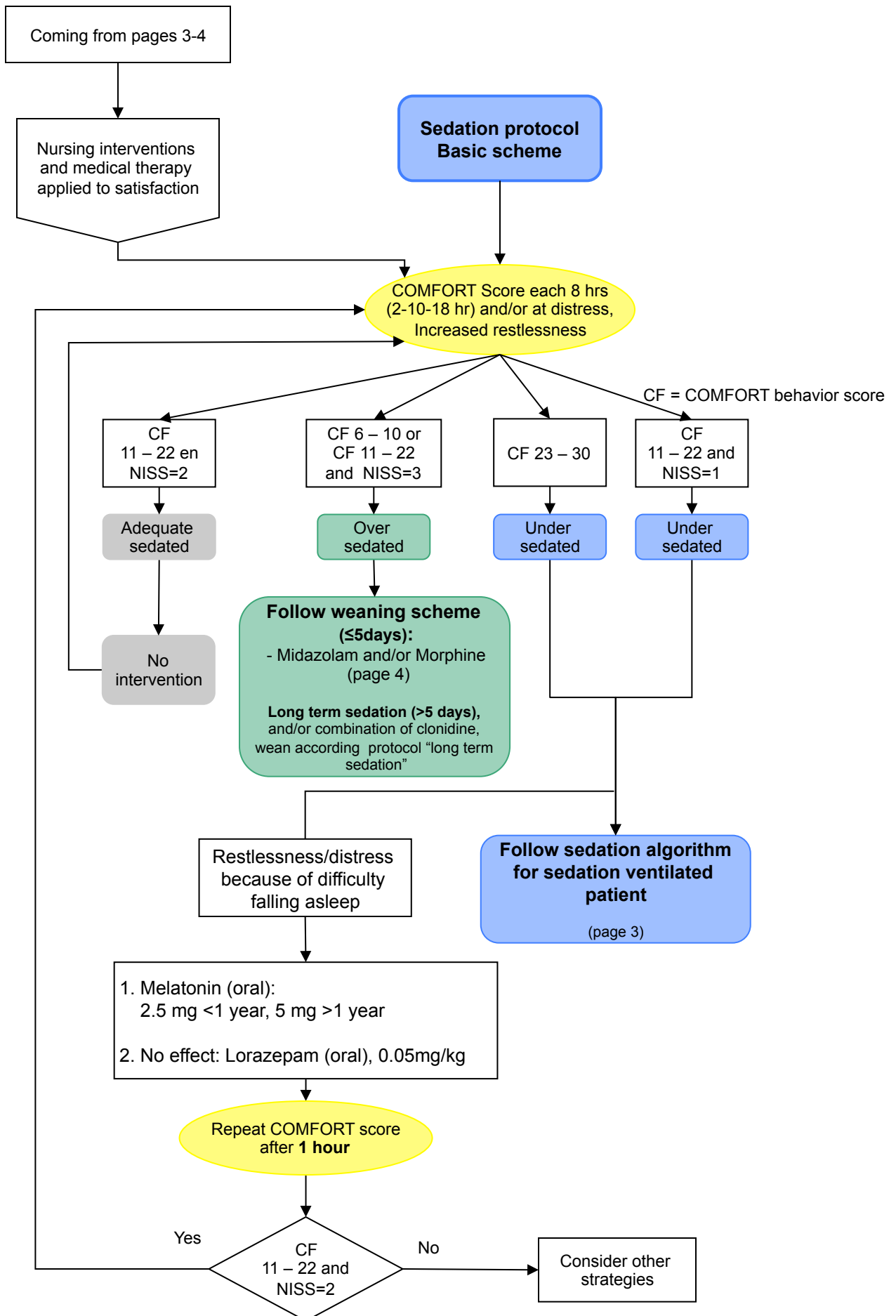
## Decision tree sedation or pain relief



## Cutoff points sedation\*

Cutoff points sedation COMFORT behavior		
<b>6 - 10</b>	<b>11 - 22</b> "Grey area"	<b>23 - 30</b>
<b>Over sedated.</b> Consider weaning sedatives/opioids	Nurse's opinion required. Nurse Interpretation Sedation Score (VISS) <b>Sedation is (NISS):</b> Insufficient → Increase Adequate → Continue Over → Decrease <b>Medication:</b>	<b>Definitely under sedated.</b> Increase drug

\* Ista E. et al. Assessment of sedation levels in pediatric intensive care patients can be improved by using the COMFORT 'behavior' scale. Ped Crit Care Med 2005; 6:58-63



Algorithm sedation of ventilated patient. Medical therapy to be performed by nurses independently

**CAVE:**  
Do not perform in:  
- Neonates with GA < 37 weeks  
- Patients with traumatic brain injury  
- Patients with status epilepticus

**Dosages apply to patients with max. body weight of 50 kg.**

Reduce distress by nursing interventions

COMFORT Score each 8 hrs (2-10-18 hr) and/or at distress, Increased restlessness

Midazolam\* (iv):  
Loading dose 0.1 mg/kg **AND**  
Infusion: 100 mcg/kg/hr

\* Evaluation of hemodynamics is essential after start Midazolam.

Repeat COMFORT score after 30 min.

Midazolam \* (iv):  
Increase to max. 300 mcg/kg/hr  
in steps of 100 mcg/kg/hr  
+ bolus 0.1 mg/kg per  
step (= 30 min.)  
**Note: max. doses is 15mg/u**

Yes  
CF  
11 – 22 and  
NISS=2  
No

No, and Midazolam max. (300mcg/kg/hr)

Add Morphine (iv):  
Loading dose: 100 mcg/kg **AND**  
Infusion: 10 mcg/kg/hr

Repeat COMFORT score after 30 min.

Morphine (iv):  
Increase to **max.** 30 mcg/kg/hr  
in steps of 10 mcg/kg/hr  
+ bolus 15 mcg/kg per  
step (= 30 min.)  
**Note: max. doses is 1mg/u**

Yes  
CF  
11 – 22 and  
NISS=2  
No

No

**Consider other medication: (physician's responsibility)**

1. Clonidine: (iv) 0.2-2 mcg/kg/hr infusion, loading dose: 2-5 mcg/kg; or oral: 1-5 mcg/kg 3-4 dd. (**Max doses is 0.1 mg/hr**)
2. Fentanyl: (iv) 1-3 mcg/kg/hr infusion, loading dose: 1-2 mcg/kg (instead of Morphine) (**Max doses 200mcg/hr**).

