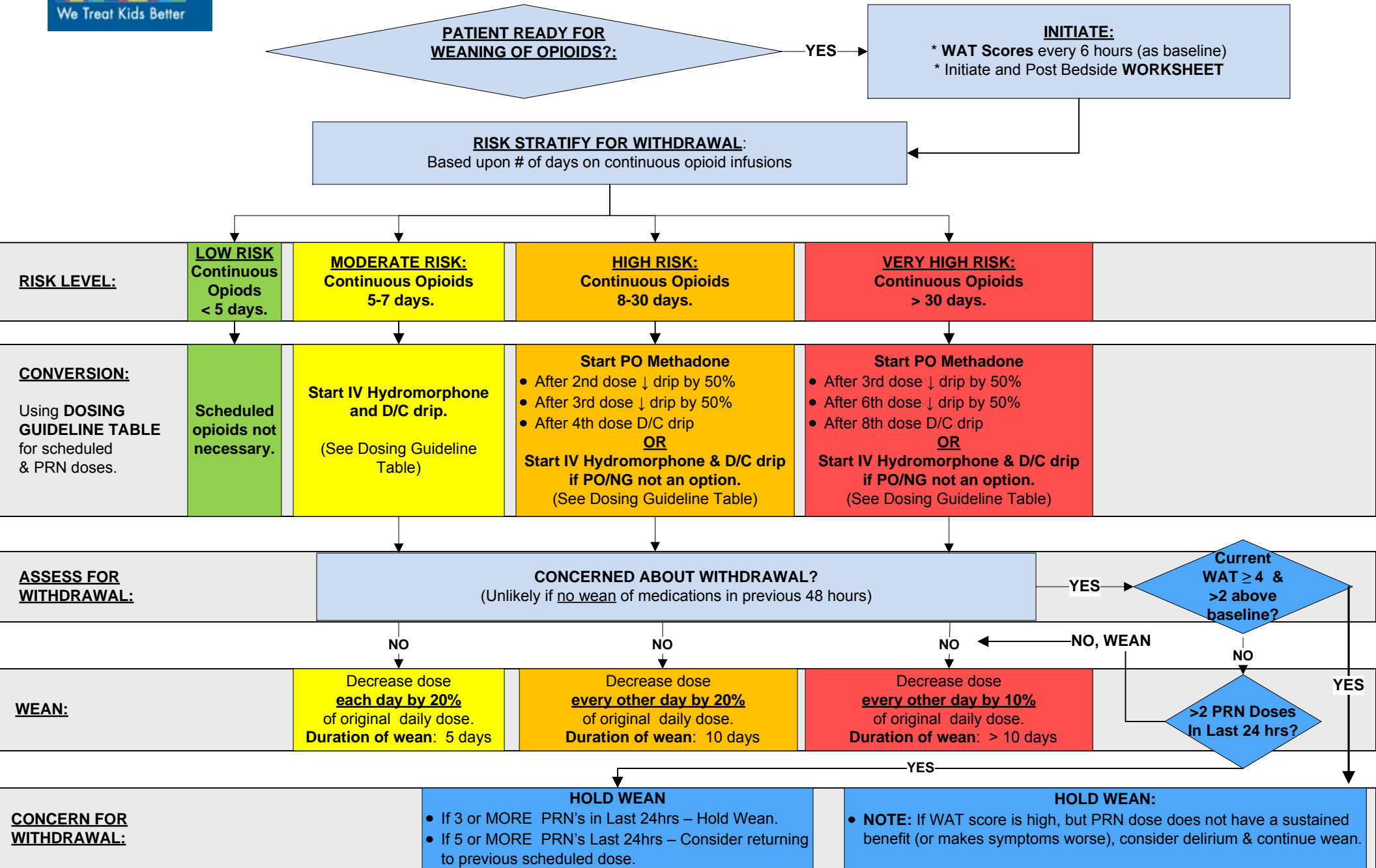




PICU/CTICU OPIOID WITHDRAWAL PREVENTION GUIDELINES

GOAL: Shorten patients' duration of opiate utilization while minimizing symptoms of withdrawal and over-sedation.



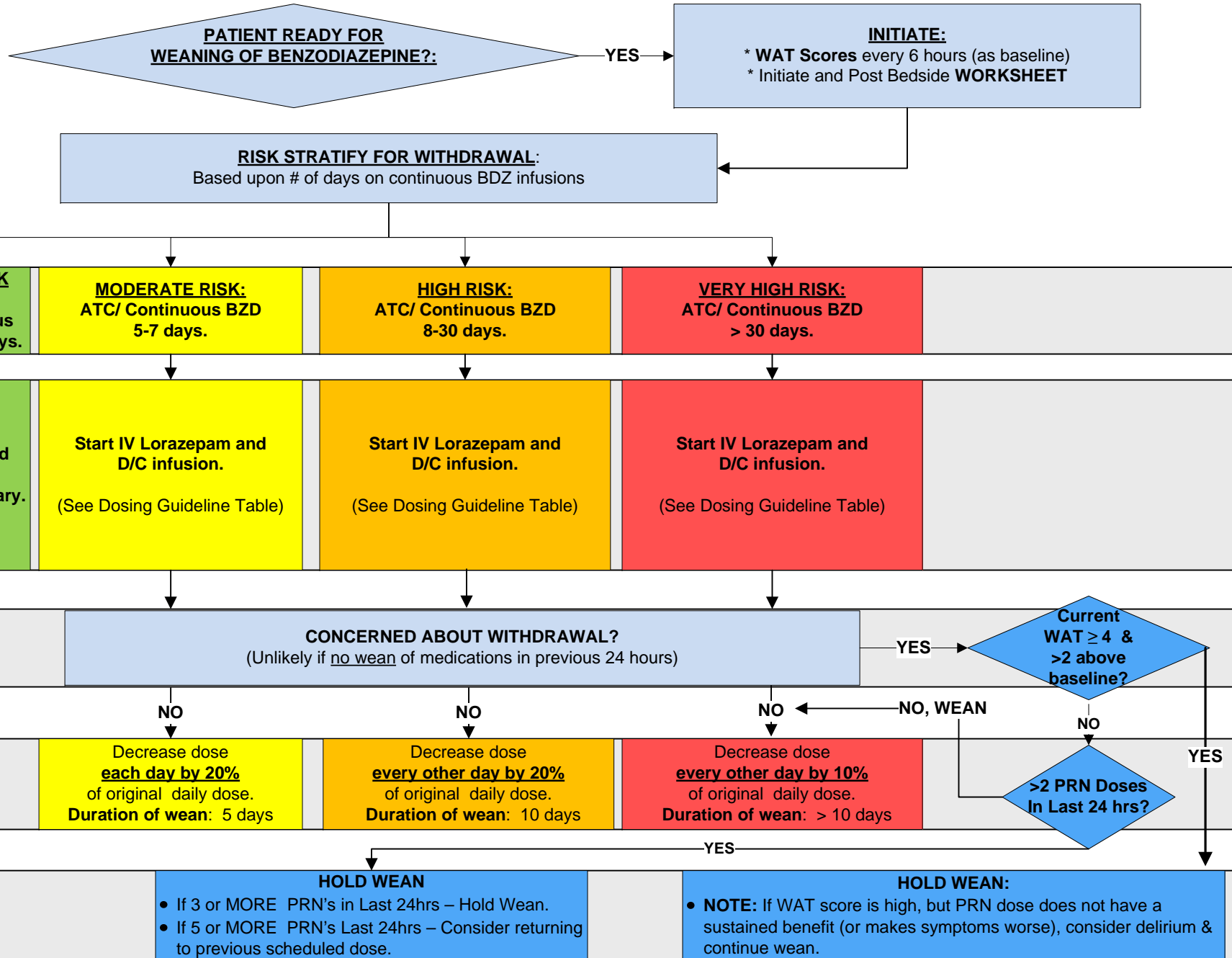
NOTE: As with all guidelines, individual patients may require deviation from this guideline and clinical judgment is advised.



PICU/CTICU BENZODIAZEPINE WITHDRAWAL PREVENTION GUIDELINES

GOAL: Shorten patients' duration of benzodiazepine utilization while minimizing symptoms of withdrawal and over-sedation.

KEY:
BZD=benzodiazepine,
ATC=around the clock,
PRN=as needed dose



NOTE: As with all guidelines, individual patients may require deviation from this guideline and clinical judgment is advised.

Withdrawal Minimization Dosing Guideline Table

Opioids:

Current Infusion Dose	Recommended Scheduled Dosing		PRN Dosing
Fentanyl Drip	PO Methadone (preferred) (Max Dose: 10 mg)	IV Hydromorphone (if PO/NG not an option) (Max Dose 2 mg)	PRN IV Hydromorphone (Max Dose: 2 mg)
1 mcg/kg/hr	0.05 mg/kg/dose PO Q8H	0.01 mg/kg/dose IV Q4H	0.01 mg/kg/dose IV Q2-4H PRN
2 mcg/kg/hr	0.1 mg/kg/dose PO Q8H	0.02 mg/kg/dose IV Q4H	0.02 mg/kg/dose IV Q2-4H PRN
3 mcg/kg/hr	0.1 mg/kg/dose PO Q8H	0.02 mg/kg/dose IV Q4H	0.02 mg/kg/dose IV Q2-4H PRN
4 mcg/kg/hr	0.15 mg/kg/dose PO Q8H	0.03 mg/kg/dose IV Q4H	0.03 mg/kg/dose IV Q2-4H PRN
Hydromorphone Drip	PO Methadone (preferred) (Max Dose: 10 mg)	IV Hydromorphone (if PO/NG not an option) (Max dose 2 mg)	PRN IV Hydromorphone (Max dose 2 mg)
0.005 mg/kg/hr (=5mcg/kg/hr)	0.1 mg/kg/dose PO Q8H	0.02 mg/kg/dose IV Q4H	0.02 mg/kg/dose IV Q2-4H PRN
0.01 mg/kg/hr (=10 mcg/kg/hr)	0.1 mg/kg/dose PO Q8H	0.04 mg/kg/dose IV Q4H	0.04 mg/kg/dose IV Q2-4H PRN
0.015 mg/kg/hr (=15mcg/kg/hr)	0.1 mg/kg/dose PO Q8H	0.06 mg/kg/dose IV Q4H	0.06 mg/kg/dose IV Q2-4H PRN
0.02 mg/kg/hr (=20mcg/kg/hr)	0.15 mg/kg/dose PO Q8H	Use Methadone or Wean Infusion	0.08 mg/kg/dose IV Q2-4H PRN
0.025 mg/kg/hr (=25mcg/kg/hr)	0.15 mg/kg/dose PO Q8H	Use Methadone or Wean Infusion	0.08 mg/kg/dose IV Q2-4H PRN
0.03 mg/kg/hr (=30mcg/kg/hr)	0.15 mg/kg/dose PO Q8H	Use Methadone or Wean Infusion	0.08 mg/kg/dose IV Q2-4H PRN
Morphine Drip	PO Methadone (preferred) (Max Dose: 10 mg)	IV Hydromorphone (if PO/NG not an option) (Max Dose 2 mg)	PRN IV Hydromorphone (Max Dose: 2 mg)
0.1 mg/kg/hr	0.05 mg/kg/dose PO Q8H	0.01 mg/kg/dose IV Q4H	0.01 mg/kg/dose IV Q2-4H PRN
0.2 mg/kg/hr	0.1 mg/kg/dose PO Q8H	0.02 mg/kg/dose IV Q4H	0.02 mg/kg/dose IV Q2-4H PRN
0.3 mg/kg/hr	0.1 mg/kg/dose PO Q8H	0.02 mg/kg/dose IV Q4H	0.02 mg/kg/dose IV Q2-4H PRN
0.4 mg/kg/hr	0.15 mg/kg/dose PO Q8H	0.03 mg/kg/dose IV Q4H	0.03 mg/kg/dose IV Q2-4H PRN

IV to PO Conversion: Hydromorphone IV : PO = 1 : 5; Methadone IV : PO = 1 : 0.7.

Withdrawal Minimization Dosing Guideline Table

Benzodiazepines:

Current Infusion Dose	Recommended Scheduled Dosing	PRN Dosing
Midazolam Drip	IV Lorazepam (Max Dose: 4 mg)	PRN IV Lorazepam (Max Dose: 4 mg)
0.06 mg/kg/hour	0.05 mg/kg/dose IV/PO Q4H	0.025-0.05 mg/kg/dose IV Q2-4H PRN
0.12 mg/kg/hour	0.1 mg/kg/dose IV/PO Q4H	0.05-0.1 mg/kg/dose IV Q2-4H PRN
0.18 mg/kg/hour	0.15 mg/kg/dose IV/PO Q4H	0.1-0.15 mg/kg/dose IV Q2-4H PRN
0.24 mg/kg/hour	0.25 mg/kg/dose IV/PO Q4H	0.15-0.25 mg/kg/dose IV Q2-4H PRN

Lorazepam IV : PO = 1 : 1

**Lorazepam Intermittent Dosing at Intervals Other Than Q4H Should be Converted to Q4H Equivalents
(Calculator will do this automatically).**