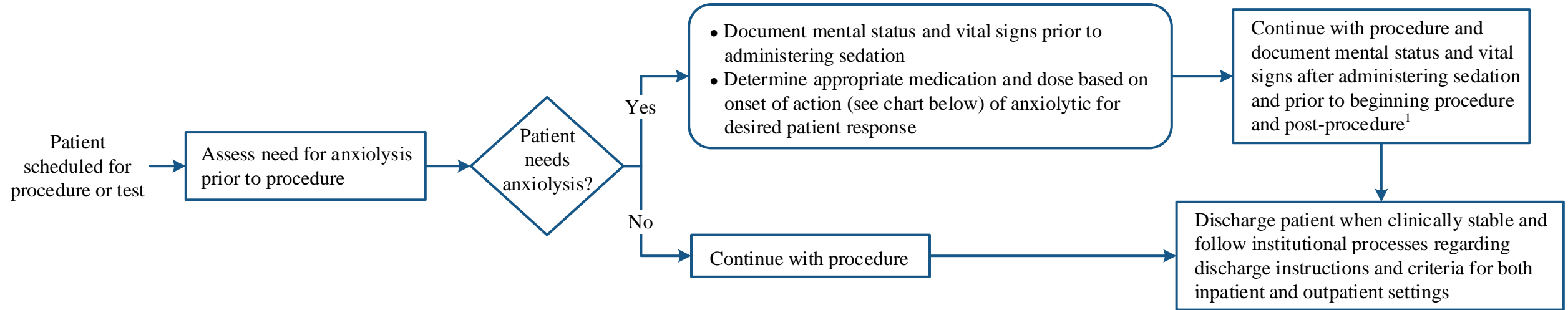


# Anxiolysis (Minimal Sedation) for Procedures and Tests

Disclaimer: This algorithm has been developed for MD Anderson using a multidisciplinary approach considering circumstances particular to MD Anderson's specific patient population, services and structure, and clinical information. This is not intended to replace the independent medical or professional judgment of physicians or other health care providers in the context of individual clinical circumstances to determine a patient's care. This algorithm should not be used to treat pregnant women.

**Note:** Refer to UTMDACC Institutional Policy #CLN0502 for complete information.

## TREATMENT



Adult Recommended Anxiolysis Dosing <sup>2,3</sup>			
Drug	Adult Dose	Route	Onset
Midazolam <sup>4</sup>	5 – 10 mg	PO	10-30 minutes
Lorazepam	0.5 – 2 mg	PO	30-60 minutes
	1 – 4 mg	IM	20-30 minutes
Diazepam	5 – 10 mg	PO	30 minutes
Alprazolam	0.25 – 0.5 mg	PO	60 minutes

Pediatric Recommended Anxiolysis Dosing <sup>3,5,6</sup>				
Drug	Pediatric Dose	Route	Onset	Maximum Dose
Midazolam	0.5 – 1 mg/kg/dose	PO	10-20 minutes	5 mg

<sup>5</sup> Pediatric considerations:

- Consider lower dosing strategies for patients with cardiac or respiratory compromise, and those who received concomitant opiates, benzodiazepines or similar synergistic sedative medications.
- Younger patients (6 months to < 6 years) and those less cooperative may require higher doses (up to 1 mg/kg/dose), may repeat one time dose within 30 minutes of initial dose if adequate response is not achieved.
- Use lower initial doses in older patients (6 years to < 16 years)

<sup>6</sup> Pediatric resuscitative equipment should be available or easily accessible

<sup>1</sup> If an admitted patient receives a dose of IV benzodiazepine for anxiolytic purposes within 30 minutes of a procedure or test, it is recommended that the patient is monitored according to standards [Refer to Sedation/Analgesia for Procedures Policy (MD Anderson Institutional Policy # CLN0596)]

<sup>2</sup> Dosing adjustments: use lower doses for patients > 60 years, debilitated patients, hepatic or renal impairment, and in combination with narcotics or with other central nervous system (CNS) depressants

<sup>3</sup> Flumazenil is available for patients requiring reversal of anxiolytics

<sup>4</sup> Midazolam is preferred due to shorter half-life

Disclaimer: *This algorithm has been developed for MD Anderson using a multidisciplinary approach considering circumstances particular to MD Anderson's specific patient population, services and structure, and clinical information. This is not intended to replace the independent medical or professional judgment of physicians or other health care providers in the context of individual clinical circumstances to determine a patient's care. This algorithm should not be used to treat pregnant women.*

---

## SUGGESTED READINGS

- Blumer, J. L. (1998). Clinical pharmacology of midazolam in infants and children. *Clinical Pharmacokinetics*, 35(1), 37-47. <https://doi.org/10.2165/00003088-199835010-00003>.
- Coté, C. J., Cohen, I. T., Suresh, S., Rabb, M., Rose, J. B., Weldon, B. C., . . . Collins, P. (2002). A comparison of three doses of a commercially prepared oral midazolam syrup in children. *Anesthesia and Analgesia*, 94(1), 37-43. <https://doi.org/10.1097/00000539-200201000-00007>.
- Crevoisier, C., Ziegler, W. H., Eckert, M., & Heizmann, P. (1983). Relationship between plasma concentration and effect of midazolam after oral and intravenous administration. *British Journal of Clinical Pharmacology*, 16(S1), 51S-61S. <https://doi.org/10.1111/j.1365-2125.1983.tb02271.x>.
- Marshall, J., Rodarte, A., Blumer, J., Khoo, K., Akbari, B., Kearns, G., & Pediatric Pharmacology Research Unit Network. (2000). Pediatric pharmacodynamics of midazolam oral syrup. *Journal of Clinical Pharmacology*, 40(6), 578-589. <https://doi.org/10.1002/j.1552-4604.2000.tb05983.x>.
- Reed, M. D., Rodarte, A., Blumer, J. L., Khoo, K., Akbari, B., Pou, S., & Pediatric Pharmacology Research Unit Network. (2001). The single-dose pharmacokinetics of midazolam and its primary metabolite in pediatric patients after oral and intravenous administration. *Journal of Clinical Pharmacology*, 41(12), 1359-1369. <https://doi.org/10.1177/00912700122012832>.
- Yaeger, J., MD. (2011). Adding intranasal lidocaine to midazolam may benefit children undergoing procedural sedation. *Journal of Pediatrics*, 159(1), 166-166. <https://doi.org/10.1016/j.jpeds.2011.05.010>.

Disclaimer: *This algorithm has been developed for MD Anderson using a multidisciplinary approach considering circumstances particular to MD Anderson's specific patient population, services and structure, and clinical information. This is not intended to replace the independent medical or professional judgment of physicians or other health care providers in the context of individual clinical circumstances to determine a patient's care. This algorithm should not be used to treat pregnant women.*

---

## DEVELOPMENT CREDITS

This practice consensus statement is based on majority opinion of the Anxiolysis experts at the University of Texas MD Anderson Cancer Center for the patient population. These experts included:

Thao Bui, MD (Anesthesiology and PeriOperative Medicine)  
Richard Carlson III, MD (Anesthesiology and PeriOperative Medicine)<sup>‡</sup>  
Marta Davila, MD (Gastroenterology Hepatology and Nutrition)  
Brian Dee, PharmD (Pharmacy Clinical Programs)  
Wendy Garcia, BS<sup>♦</sup>  
Katherine Hagan, MD (Anesthesiology and PeriOperative Medicine)  
Harjeet Kaur, MSN, RN, CNL, CMQ<sup>♦</sup>  
Maria Estela Mireles, PharmD (Pharmacy Clinical Programs)  
Amy Pai, PharmD, BCPS<sup>♦</sup>  
Huang Steven, MD (Interventional Radiology)  
Danna Stone, RN, MBA (Diagnostic Imaging-Clinical)  
Alda Lui Tam, MD (Interventional Radiology)  
Shannon Worchesik, RN, MBA (Diagnostic Imaging-Nursing)

<sup>‡</sup> Core Development Team Lead

<sup>♦</sup> Clinical Effectiveness Development Team