



Texas Department of State
Health Services



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Naloxone Use for Opioid Overdose

To address the needs of school nurses, the Texas Department of State Health Services (DSHS)–School Health Program has developed this repository of information. With each issue of *DSHS-School Nurse Notes* (DSHS-SNN), professionals receive the latest research, evidence-based practices, and resources in school nursing related to a topic of interest. The School Health Program wishes to thank the Texas Board of Nursing for their collaboration on this publication, in particular Linda Laws, M.S.N., R.N. for her contributions. If you have any questions or comments about this issue of DSHS-SNN, please contact School Nurse Consultant Anita Wheeler, M.S.N., R.N. at (512) 776-2909 or at anita.wheeler@DSHS.texas.gov.

Background

Opioids are a class of drugs that include heroin, synthetic opioids such as fentanyl, and pain relievers such as oxycodone, hydrocodone, codeine, morphine and others.¹ Opioid pain relievers are safe when taken for a short amount of time, as directed by a physician. However, opioids euphoric effect paired with their pain relieving qualities can lead to dependence, misuse, addiction, overdose, and death.

In the late 1990s, pharmaceutical companies assured the medical community that opioids were not addictive, and prescriptions for them began to rise. Increases in opioid prescriptions led to widespread misuse of both prescription and non-prescription opioids, and their true addictive nature was revealed. In 2017, the department of Health and Human Services (HHS) and the National Institute of Health (NIH) declared a public health state of emergency, marking what is known today as the Opioid Epidemic or Crisis.²

In response to the opioid crisis, the HHS has five major priorities:

1. Improving access to treatment and recovery services,
2. promoting use of overdose-reversing drugs,
3. strengthening understanding of the epidemic through better public health surveillance,
4. providing support for innovative research on pain and addiction,
5. and advancing better practices for pain management.³

In response to the crisis, the U.S. Surgeon General released a public health advisory urging Americans to carry the potentially lifesaving medication, Naloxone.⁴ Naloxone can reverse and block the effects of opioids and quickly restore the person under distress to a normal breathing pattern.⁵ Naloxone, approved by the Food and Drug Administration (FDA), can be given by intranasal spray, intramuscular injection, subcutaneously, or through intravenous injection.⁶ Naloxone, when administered quickly and effectively, has the potential to save lives.

The school nurse possesses the knowledge and education to identify overdoses, respond with naloxone, and manage side effects until emergency medical services can respond.⁷ Expanding access to naloxone in the school setting can help combat opioid abuse and prevent overdose deaths among adolescents. The following resources discuss the opioid crisis and the importance of naloxone in preventing overdose in schools.

Nursing Standards and License Considerations

Texas Board of Nursing (BON)

As discussed above, opioid overdose is a nationwide epidemic and the use of Naloxone, which blocks the effects of opioids, can reverse most cases of opioid overdose if given in time. In 2015, Texas enacted [Senate Bill 1462](#) which made Naloxone available when and where it is needed. One of the provisions of the law permits emergency services personnel (firefighters, emergency room personnel, and other individuals), who either as part of their jobs or as volunteers provide services for the benefit of the general public during emergencies, to administer naloxone to any person who appears to be suffering an opioid-related overdose.

The legislation also provides that so long the person who administered Naloxone to an individual believed to be suffering from an opioid drug overdose acted in good faith and with reasonable care, which the person would not be subject to criminal prosecution, licensure discipline or civil liability for an act or omission resulting from the Naloxone administration. In the event the school nurse needs to administer naloxone, there are several things to keep in mind. The Nursing Practice Act or NPA (Texas Occupations Code, Chapter 301 et. seq.) and Board Rules are written broadly so every nurse in all of the many different practice settings and specialty areas can apply them across the state. Board staff recommends review of documents on our website (www.bon.texas.gov) which include:

- [Board Rule 217.11\(1\) Standards Specific to All Nurses](#)
- [Board Rule 217.11\(2\) Standards Specific to Vocational Nurses](#)
- [Board Rule 217.11\(3\) Standards Specific to Registered Nurses](#)
- [Board Rule 217.11\(4\) Standards Specific to Advanced Practice Registered Nurses](#)
- [The Six-Step Decision-Making Model for Determining Nursing Scope of Practice](#)
- [Position Statement 15.14, Duty of a Nurse in Any Practice Setting](#)
- [Position Statement 15.5, Nurses with Responsibility for Initiating Physician Standing Orders](#)

Some of the more applicable standards addressed in [Board Rule 217.11](#) section (1) include:

217.11(1)(A): Requires the nurse to know and conform to not only the Texas NPA and the Board's rules and regulations but to all federal, state, or local laws, rules or regulations affecting the nurse's current area of nursing practice;

- For a school nurse, there may be laws, rules, or regulations from the [Texas Education Agency](#), for example, which influence the ability to administer Naloxone. Therefore, school nurses should be familiar with the Texas Education Code and how it affects the delivery of nursing services to students.

217.11(1) (B): Requires the nurse to implement measures to promote a safe environment for clients and others;

217.11(1)(C) Know the rationale for and the effects of medications and treatments and shall correctly administer the same;

217.11(1)(M) Institute appropriate nursing interventions that might be required to stabilize a client's condition and/or prevent complications;

217.11(1)(T): Requires the nurse to accept only those nursing assignments that take into consideration client safety and that are commensurate with the nurse's educational preparation, experience, knowledge, and physical and emotional ability.

Please keep in mind that a nurse functions under his/her own nursing license, and as such has a duty to patients that is separate from any employment relationship. In other words, a physician's order, facility policy

or a directive from a supervisor cannot supersede a nurse's duty to keep a patient(s) safe. [Position Statement 15.14: Duty of a Nurse in any Practice Setting](#) illustrates the nurse's duty to implement measures to promote a safe environment [[Board Rule 217.11\(1\)\(B\)](#)] and uses a landmark court case to demonstrate a nurse's duty to patients to promote patient safety. Additionally, Position Statement [15.13 Role of LVNs and RNs in School Health](#) may be a helpful resource.

Other useful Texas Board of Nursing documents include:

- [Texas Board of Nursing Rules & Regulations](#) relating to Nurse Education, Licensure and Practice. Published October 2017.
- [Position Statement 15.14 Duty of a Nurse in any Practice Setting:](#)
- [Position Statement 15.13 Role of LVNs and RNs in School Health](#)
- [Six-Step Decision-Making Model for Determining Nursing Scope of Practice](#)
- [Six-Step Decision-Making Model for Determining the LVN Scope of Practice](#)
- [Delegation FAQs](#)

National Association of School Nurses (NASN)

- [Code of Ethics](#)
- Position Statement (2016): [Naloxone Use in the School Setting](#)
- School Nurse (2016): [Saving Lives- Implementation of Naloxone Use in the School Setting](#)
- [Naloxone in Schools Toolkit \(2016\)](#)
- Position Statement (2017): [Medication Administration in the School Setting](#)

Texas School Nurses Organization (TSNO)

- School Nursing: [Scope and Standards of Practice](#)

Research

The following articles come from a review of the scientific literature. For assistance in obtaining an article, please contact the DSHS Library at library@DSHS.texas.gov and mention inclusion of the requested article in the *DSHS-School Nurse Notes*. Following each citation is a portion of the article's abstract or a summary of the article.

1. Kim, D., Irwin, K. and Khoshnood, K. (2009). **Expanded Access to Naloxone: Options for Critical Response to the Epidemic of Opioid Overdose Mortality**. American Journal of Public Health, 99(3), pp.402-407. The United States is in the midst of a prolonged and growing epidemic of accidental and preventable deaths associated with overdoses of licit and illicit opioids. For more than 3 decades, naloxone has been used by emergency medical personnel to pharmacologically reverse overdoses. Data from recent pilot programs demonstrate that laypersons are consistently successful in safely administering naloxone and reversing opioid overdose. Current evidence supports the extensive scale up of access to naloxone. Advantages and limitations associated with a range of possible policy and program responses are presented.
2. Merlin, M., Saybolt, M., Kapitanyan, R., Alter, S., Jeges, J., Liu, J., Calabrese, S., Rynn, K., Perritt, R. and Pryor, P. (2010). **Intranasal naloxone delivery is an alternative to intravenous naloxone for opioid overdoses**. The American Journal of Emergency Medicine, 28(3), pp.296-303. The study attempts to establish that intranasal (IN) naloxone is as effective as intravenous (IV) naloxone but without the risk of needle exposure. Three hundred forty-four patients who received naloxone by paramedics from January 1, 2005, until December 31, 2007, were evaluated. Of those who experienced opioid overdoses, change in respiratory rate was 6 for the IV group and 4 for the IN group ($P = .08$). Change in Glasgow Coma Scale was 4 for the IV group and 3 for the IN group ($P = .19$). Overall, IN is statistically as effective as IV naloxone at reversing the effects of opioid overdose. Based on the results, IN naloxone is a viable alternative to IV naloxone and poses less risk of needle stick injury.
3. Green, T., Heimer, R. and Grau, L. (2008). **Distinguishing signs of opioid overdose and indication for naloxone: an evaluation of six overdose training and naloxone distribution programs in the United States**. Addiction, 103(6), pp.979-989. The study assesses overdose and naloxone administration knowledge among current or former opioid abusers, trained and untrained in overdose-response. U.S. based overdose training and naloxone distribution programs in Baltimore, San Francisco, Chicago, New York and New Mexico were assessed. Participants, both trained and untrained in overdose recognition completed a brief questionnaire on overdose knowledge. Trained participants recognized more opioid overdose scenarios accurately ($t_{60} = 3.76, P < 0.001$) and instances where naloxone was indicated ($t_{59} = 2.2, P < 0.05$) than did untrained participants. Trained respondents were as skilled as medical experts in recognizing opioid overdose situations (weighted kappa = 0.85) and when naloxone was indicated (kappa = 1.0).

4. Dunne, R. (2018). **Prescribing naloxone for opioid overdose intervention.** *Pain Management*, 8(3), pp.197-208.

The goal of the review is to provide an update on prescription of naloxone as a harm-reduction strategy. PubMed was searched to identify publications relevant to naloxone prescribing for reversal of opioid overdose.

Opportunities exist to expand naloxone use, although evidence suggests these are often missed. The U.S. FDA has approved an intranasal naloxone spray and an auto-injector naloxone formulation for community use. Effective use of naloxone in community settings requires screening to identify patients at risk of opioid overdose, discussing naloxone use with patients and their relatives, and providing appropriate training.

5. Ryan, S. and Dunne, R. (2018). **Pharmacokinetic properties of intranasal and injectable formulations of naloxone for community use: a systematic review.** *Pain Management*, 8(3), pp.231-245.

The study aims to assess the pharmacokinetic properties of community-use formulations of naloxone for emergency treatment of opioid overdose. Two studies of US FDA-approved intramuscular (IM)/subcutaneous (subQ) auto-injectors, one of an FDA-approved intranasal spray, two of unapproved intranasal kits (syringe with atomizer attachment) and two of intranasal products in development met inclusion criteria. Overall, the pharmacokinetics of one IM/subQ auto-injector and approved intranasal sprays (2 and 4 mg) demonstrated rapid uptake and naloxone exposure, exceeding that of the historic benchmark (0.4 mg im.). The results indicated that naloxone exposure was adequate for reversal of opioid overdose.

6. Pattison-Sharp, E., Estrada, R., Elio, A., Prendergast, M. and Carpenter, D. (2017). **School nurse experiences with prescription opioids in urban and rural schools: A cross-sectional survey.** *Journal of Addictive Diseases*, 36(4), pp.236-242.

Few studies have examined the use of prescription opioids in schools. This study aimed to: (1) describe the context within which school nurses encounter student opioid prescriptions; (2) assess school nurses' preferences for training and student education; and (3) explore urban-rural differences in school nurses' experiences and training preferences. A convenience sample of school nurses from North Carolina and South Carolina participated in an anonymous, online survey. Many school nurses (40.3%) had encountered a student with an opioid prescription, but only 3.6% had naloxone available in case of an overdose. Most school nurses (69.9%), especially rural school nurses, believed students would benefit from opioid education. The majority of school nurses (83.9%) were interested in opioid-related training. Overall, many school nurses encounter students with prescription opioids and would like additional opioid-related training.

Resources

General Information

- Texas Guide to School Health Services: [School Health Services](#): The “Medication Administration” resources
- Boys and Girls Club of America: [Opioid and Substance Use Prevention Guide](#)
- Harm Reduction Coalition: [Guide to Developing and Managing Overdose Prevention and Take- Home Naloxone Projects](#)
- Helping to End Addiction over the Long-Term: [The Research Plan for the NIH Heal Initiative](#)
- Journal of School Health Commentary: [The Opioid Crisis and Schools](#)
- National Council of State Boards of Nursing: [Opioid Toolkit](#)
- NIH: National Institute on Drug Abuse
 - [Opioid Overdose Reversal with Naloxone \(Narcan, Evzio\)](#)
 - [Opioid Overdose Crisis](#)
 - [Opioid Summaries by State](#)
 - [Principles of Adolescent Substance Use Disorder- A Research Based Guide](#)
- Robert Crown Center for Health Education: [Science Behind Drugs](#)
- Substance Abuse and Mental Health Services Administration (SAMHSA)
 - [Naloxone](#)
 - [Opioid Overdose](#)
 - [Opioid Overdose Prevention Toolkit](#)
 - [Naloxone Animation Video](#)
- [Surgeon Generals Advisory on Naloxone and Opioid Overdose](#)
- [The President’s Commission on Combating Drug Addiction and the Opioid Crisis](#)

References

1. Drugabuse.gov. (2018). Opioids. Available at: <https://www.drugabuse.gov/drugs-abuse/opioids#summary-of-the-issue> [Accessed 18 Jun. 2018].
2. HHS.gov. (2018). What is the U.S. Opioid Epidemic? Available at: <https://www.hhs.gov/opioids/about-the-epidemic/index.html> [Accessed 18 Jun. 2018].
3. Drugabuse.gov. (2018). Opioid Overdose Crisis. Available at: <https://www.drugabuse.gov/drugs-abuse/opioids/opioid-overdose-crisis> [Accessed 18 Jun. 2018].

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5. Drugabuse.gov. (2018). Opioid Overdose Reversal with Naloxone (Narcan, Evzio). Available at: <https://www.drugabuse.gov/related-topics/opioid-overdose-reversal-naloxone-narcan-evzio> [Accessed 18 Jun. 2018].
6. Samhsa.gov. (2018). Naloxone | SAMHSA - Substance Abuse and Mental Health Services Administration. Available at: <https://www.samhsa.gov/medication-assisted-treatment/treatment/naloxone> [Accessed 18 Jun. 2018].
7. Nasn.org. (2018). Naloxone Use in the School Setting: The Role of the School Nurse - National Association of School Nurses. Available at: <https://www.nasn.org/advocacy/professional-practice-documents/position-statements/ps-naloxone> [Accessed 18 Jun. 2018].

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