

Cardiopulmonary resuscitation (CPR) in a context of community-based naloxone administration for opioid overdose

English summary

Une production de l'Institut national
d'excellence en santé
et en services sociaux (INESSS)

This is the English summary of the guidance entitled La réanimation cardiorespiratoire (RCR) dans le contexte de l'administration de naloxone pour surdose d'opioïdes dans la communauté published in March 2018.

The complete version of this guidance (in French) is available on the website of INESSS in the Publications section.

Équipe de projet

Auteurs

Nathalie Jobin, Ph. D., Dt. P.
Michel Rossignol M.D., M. Sc.

Direction scientifique

Michèle de Guise, M.D., FRCPC, M.M.

Coordination scientifique

Yannick Auclair, Ph. D.

Repérage d'information scientifique

Caroline Dion, M.B.S.I., *bibl. prof.*

Soutien documentaire

Flavie Jouandon

SUMMARY

Introduction

The current global opioid crisis refers to the significant increase in the number of deaths from prescription or illicit opioid drugs. In Quebec, where the present situation is less critical than is the case in Western Canada, the fatality rate from opioid intoxication has nevertheless increased since 2012.

Opioid overdose mortality is preventable through the administration of naloxone. Naloxone is an opioid antagonist that quickly reverses opioid effects on the central nervous system and respiratory system. It is well documented that naloxone administered for the prevention of fatal overdose is safe and effective. A large proportion of community-based opioid intoxications occur in the presence of a witness (family member, peer, street worker). Consequently, the people around victims can play an important role in providing them assistance, calling for emergency services and saving lives. Through naloxone distribution programs, individuals likely to witness opioid overdoses can have access to this opioid antidote. Besides naloxone administration, there presently exists heterogeneity as regards resuscitation practices suggested to individuals untrained in CPR so they can respond to opioid overdose emergencies: chest compression, ventilation or both. In that context, the Minister of Health and Social Services mandated the *Institut national d'excellence en santé et en services sociaux* (INESSS) to write a report on best practices in the area of resuscitation measures to be recommended to the general public in circumstances of naloxone administration.

Methods

To fulfill this mandate, INESSS conducted an extensive systematic search of scientific and grey literature on resuscitation interventions recommended to witnesses untrained in CPR in the event of opioid overdose emergencies. The articles and documents were analyzed to determine conditions of naloxone access that ensure further reduction of the harmful effects of drug overdoses. An advisory committee provided assistance to INESSS in ensuring the scientific credibility, pertinence and social and professional acceptability of the end product. The members were asked to challenge and comment the collected information at the different stages of the process; they also participated actively in developing recommendations.

Main findings

Publications on this subject have rapidly accelerated in the past few years; over 200 documents were identified and analyzed, including two (2) highly rated practice guides: one published by the World Health Organization (WHO) in 2014, and the other by the American Heart Association (AHA) in 2015. Also, 27 national and international naloxone distribution programs are described in detail. A general observation is that international experts and learned societies have divergent positions on the pertinence of recommending witnesses of potential opioid overdose who have never been trained in CPR to perform chest compression and/or mouth-to-mouth ventilation in addition to naloxone administration. The available scientific data are drawn from poor-quality observational studies, and due to confounding factors, they do not provide any indications

as to what resuscitation techniques should be advocated. For this reason, the recommendations rest essentially on expert consensus. The divergent positions, largely explained by the limits of scientific proof, result in a heterogeneity of service provision and organization at the local level. To formulate its recommendations, INESSS took into consideration the experience acquired in Quebec, ongoing initiatives and efforts, and the following findings:

- The target population is potentially identifiable as being at risk of overdose.
- The level of training of witnesses providing assistance to victims of opioid overdose has influence on the type of resuscitation that can be applied.
- In Quebec, there is a pool of people properly trained in CPR and an excellent opportunity to encourage the training of individuals with access to naloxone.
- Witnesses untrained in CPR can hardly distinguish the signs of cardiac arrest from those of respiratory arrest; it is therefore difficult for them to provide appropriate care.
- Simple and consistent mass guidance combined with professional practices must prevail in emergency overdose situations to optimize the chances of successful resuscitation.

Recommendations

1. INESSS recommends to promote application of chest compression only if the witness administering naloxone has never received training in CPR. In such case, the witness must follow the following sequence of actions:
 - Use verbal and physical stimuli.
 - Call 911.
 - Administer naloxone.
 - Perform resuscitation (chest compression only).
 - Administer a second dose of naloxone as need be.
2. INESSS recommends to provide a barrier mask with naloxone so that individuals trained in CPR can respond to the best of their ability when witnessing an overdose. Also, it seems desirable that items sold with naloxone in pharmacies should come in a case whose unique design and appearance make it easy for all Quebec users to recognize.
3. INESSS recommends to evaluate intranasal naloxone as an option under the Quebec naloxone distribution program to enhance response efficiency.
4. INESSS recommends to pursue efforts to develop and improve the training of opioid addicted individuals and potential witnesses to overdose in the administration of naloxone. These efforts may include the following:
 - Delivery of a diversified training program tailored to the needs and preferences of target populations.
 - In addition to the aforementioned training, development of online modular training to standardize training contents and facilitate access to training.
 - Development of tools to raise awareness of at-risk populations.

5. As part of the implementation of the naloxone distribution program, INESSS suggests that resources be put in place to ensure it is evaluated and to provide feedback to responders on the ground, in order to facilitate the development of proofs in actual context of use. This recommendation is consistent with the concern for continuous improvement in response in an ever-evolving area where quality and quantity of convincing data are limited.

*Institut national
d'excellence en santé
et en services sociaux*

Québec 

Siège social

2535, boulevard Laurier, 5^e étage
Québec (Québec) G1V 4M3
418 643-1339

Bureau de Montréal

2021, avenue Union, 12^e étage, bureau 1200
Montréal (Québec) H3A 2S9
514 873-2563
inesss.qc.ca

