

It's time to up skill: Cardiac Arrest Boxes Management, a new role for pharmacy technicians

Ngan Nguyen, Eileen Penn, Xavier Wright, Pamela Fernando, Dwaraka Alagaratnam
Pharmacy Department, Monash Health, Victoria

Introduction

Cardiac arrest boxes (CABs) contains medications required to assist in cardiopulmonary resuscitation.

On average, our pharmacists would spend 40 minutes per week packing and checking the contents of CABs. CAB management was proposed as an extended scope of practice for pharmacy technicians whilst also freeing up time for pharmacists to do clinical work.

This pilot study seeks to evaluate a credentialing package delivered by pharmacists to enable pharmacy technicians to independently manage the packing and distribution of CABs.

Method

The credentialing package created focused on both the clinical and practical aspects of maintaining CABs. This package comprised of:

1. Two clinical presentations on the role of the medications in a CAB and the correct method of packing and documentation.
2. One-on-one practical tutorial with a pharmacist.
3. Assessment on clinical knowledge and competency to pack and complete documentation of five mock CABs.

After the initial assessment, it was noted that whilst clinical knowledge was adequate, there were errors in both documentation and packing.

A further assessment was added which consisted of five real life CABs from hospital wards. Technicians were deemed competent if they achieved an accuracy rate of 99.5% in packing and documentation.

The impact of the credentialing package was assessed with a 7 item questionnaire.

DRUG	STRENGTH	QTY	Expiry	Expiry	Expiry	Expiry	Expiry	Expiry
Adrenaline (Epinephrine)	(1mg/1mL) 1mL ampoule	10						
Adrenaline (Epinephrine)	(1mg/10mL) 10mL ampoule	6						
Amiodarone	150mg/3mL ampoule	3						
Atropine	600microg/1mL ampoule	8						
Calcium Chloride	1g/10mL vial	1						
Glucose	25g/50mL vial	1						
Glucose	5% Injection solution 100mL	1						
Magnesium Sulphate	2.5g/5mL vial	2						
Metaraminol	10mg/1mL ampoule	2						
Midazolam	5mg/5mL ampoule	2						
Naloxone	400microg/1mL ampoule	2						
Sodium Chloride	0.9% 10mL ampoule	10						
BOX EXPIRY DATE CHECKED								
PHARMACY TECHNICIAN SIGNATURE								
PHARMACIST SIGNATURE								

Figure 1: Contents and record sheet of a CAB

Results

A total of six technicians took part in the process and three were deemed competent. Of those successful, the additional assessment improved accuracy rates from an average 99.90% to 100% for packing and 99.15% to 99.8% for documentation. Other strategies implemented to improve accuracy rates included providing immediate feedback, minimising distractions, having a clear work area and magnifying glasses available to read vial labels.

Questionnaire results indicate 80% of technicians agreed that the credentialing package improved their job satisfaction and knowledge of CABs.

Assessment	All technicians	Competent technicians
First assessment (packing)	99.79%	99.90%
Second assessment (packing)	100%	100%
First assessment (documentation)	99.23%	99.15%
Second assessment (documentation)	98.17%	99.8%

Table 1: Accuracy rates in packing and documentation for the first and second assessment for all technicians and competent technicians.

Discussion

The role and scope of practice of pharmacy technicians is an ever evolving process. This study has highlighted correct documentation as an area where focus is required when implementing new processes.

Given the results of this pilot study, a multisite trial has commenced which involves more technicians and will also include baseline data on accuracy rate of CABs managed by pharmacists.

Conclusion

The credentialing of pharmacy technicians to manage CABs is a valuable service which improves job satisfaction for technicians. Further research is required in this area to ensure enhanced training of technicians.

References

Australian and New Zealand Committee on Resuscitation. ANZCOR Guideline 11.5 – Medications in Adult Cardiac Arrest. East Melbourne, VIC: ANZCOR; 2016.

23rd November 2018. Email: ngan.nguyen@monashhealth.org