

Basic emergency kit for the pedodontist

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Abstract

A review of the literature on medical emergencies in the dental office and the evaluation of several emergency kits, including commercially available kits as well as those that have been individually prepared for use in university dental school clinics, revealed an adult orientation that renders these emergency kits inadequate for treatment of medical emergencies in a pediatric dental patient. This article presents recommendations and guidelines for developing a practical emergency kit for use by the pedodontist, that allows for individual variations based upon the needs and training of the practitioner.

Introduction

Emergencies which threaten the patient's life can and do occur in the dental office. In most instances, prompt and organized therapy can save a life. It is the responsibility of the practitioner to be prepared to recognize a medical emergency and to render appropriate early care until medical assistance can be obtained. Emergency therapy for children requires equipment that is specific for the child patient as well as modification of the dosages of emergency drugs.¹⁻⁴

An emergency kit reflects the needs of the practitioner with respect to the potential emergencies that may be encountered and to the recommended treatment of those emergencies. Most of the recommendations for treating medical emergencies in the dental office are oriented towards the adult patient.⁵⁻²¹ Unfortunately, most emergency kits for the dental office reflect this adult orientation.

The purpose of this article is to provide recommendations and guidelines for developing a practical emergency kit for use by the pedodontist. The emergency kit should contain the necessary armamentaria to enable the pedodontist to treat effectively any potential medical emergency that may occur in the office. The pedodontist, therefore, must be capable of treating medical emergencies in adults as well as children, since some of the patients in a pedodontic practice approach the age and size where recommendations for emergency therapy for an adult may apply. This responsibility must not be limited to the dental opera-

tory since considerations must be made for parents, grandparents, and relatives who may experience a medical emergency in the reception room.

The guidelines and recommendations that will be presented for developing an emergency kit for the pedodontic office reflect certain responsibilities and obligations of the practitioner. The pedodontist should be trained and be proficient in providing basic life support for the child and adult patient. In addition, the ABC's of cardiopulmonary resuscitation (CPR) should be taught to the entire office staff.^{5, 9, 10, 19, 20} It is the pedodontist's responsibility to be familiar with the local capabilities for emergency care with respect to those who are available, their location, how long it will be before help arrives, when help is available, and those who are available for quick consultations. Having two physicians available for consultation by phone is recommended to insure that someone will be available at all times.⁹ The pedodontist, based upon the level of his/her training and the proximity of emergency facilities and medical personnel,^{9, 18, 19} must have the necessary equipment and drugs available for treating potential emergencies.

The emergency equipment must be inspected periodically for proper function, and a record must be kept of these inspections. In addition, the emergency kit contents should be inspected, drug expiration dates noted, and drugs replaced as needed.^{9, 10, 18, 19}

Basic emergency kit

It is important that the kit be designed with considerations for both the child and adult patient. Most of the emergency kit modifications specific for the child patient are equipment oriented and will be discussed in that section. It is the author's opinion that the use of ready-made emergency kits should be avoided since they are often inadequate or too complex. Most of the ready-made kits tend to be adult oriented, and although provisions are made for replacing outdated drugs, this is a rather expensive convenience. It would be more practical, beneficial, and cost efficient for the pedodontist to assemble his/her own emergency kit based upon individual needs and training. The advan-

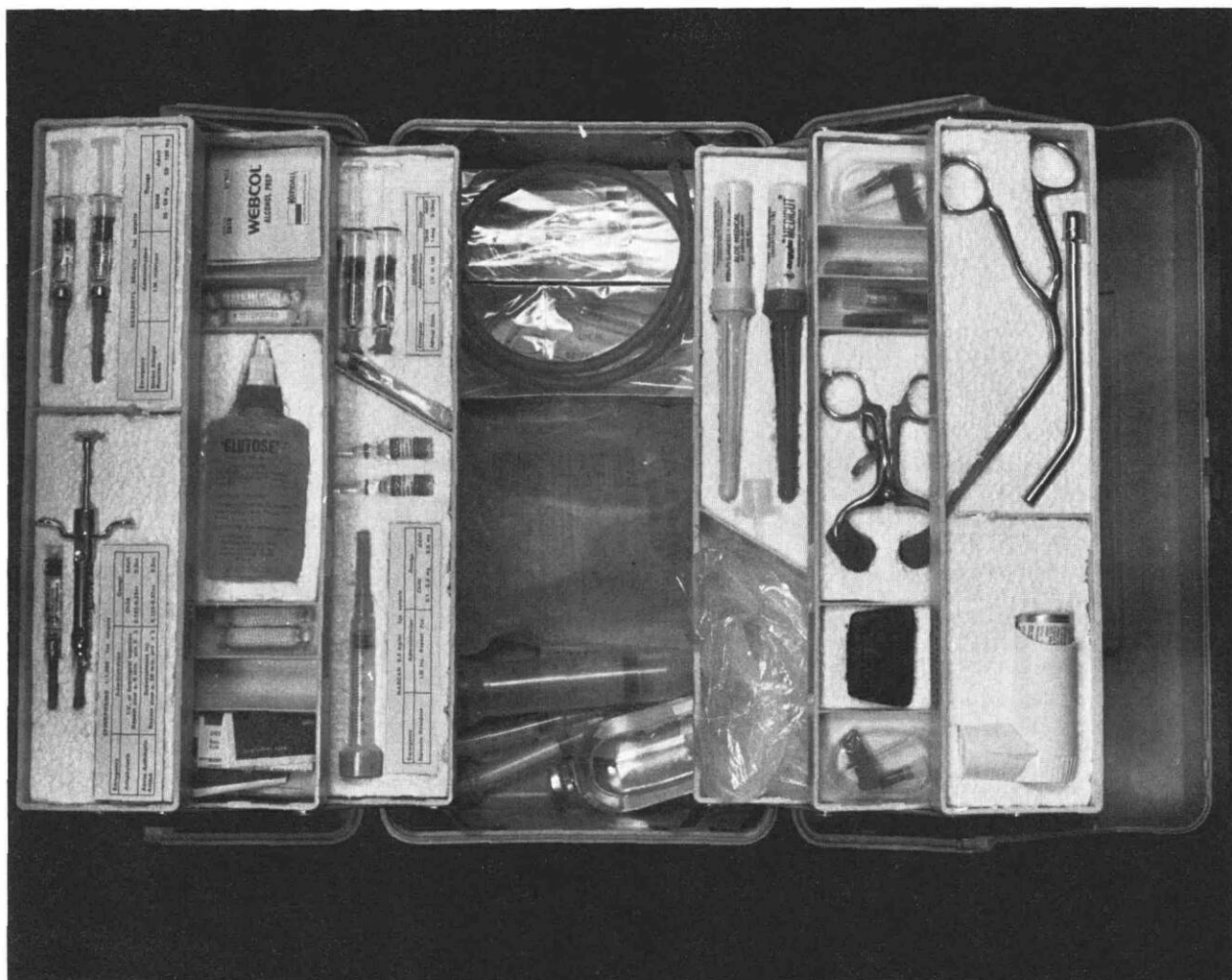


Fig. 1. The container with all compartments accessible.

tages are: (1) lower cost for most items; (2) greater familiarity with drugs and equipment; (3) quicker location of items during an emergency; and (4) the elimination of unnecessary drugs and equipment and the substitution of those that fulfill the pedodontist's requirements. Above all, keep it simple!

Container (Fig. 1.)

The container can be an inexpensive tool or tackle box since the inner compartments should be easily accessible when open. Provision should be made to discourage unauthorized persons from opening the kit and to alert the practitioner if the kit has been tampered with. A breakable lock* such as the one illustrated in Fig. 2 is suggested.

External design (Fig. 2.)

The outside of the box should have a list of the equipment contained inside and a list of the drugs

* Catalog #0503, A. R. Williams & Co., 64 Grand Avenue, Carteret, New Jersey 07008.

with their expiration dates. These data sheets should have provisions for entering the dates of inspection and the initials of the inspector. In addition, the emergency phone numbers should be listed in plain view.⁸

Internal design (Fig. 3.)

Drugs. Any physician or dentist who gives many injections must be familiar with and capable of treating anaphylactic reactions. The drugs selected for the kit should reflect the training of each individual dentist. The dentist must know the indications, actions, and side effects of any drug he administers.^{18, 19} With this in mind, the following list of drugs may serve as a guide to keeping the number of drugs at a minimum while remaining adequate to treat possible emergencies.

1. Epinephrine (1:1000) 1 cc preloaded tubex carpule (2)
2. Benadryl injections (50 mg/cc) 1 cc preloaded syringes (2)
3. Decadron (4 mg/cc) 1 cc preloaded syringe (2)
4. Narcan injections (0.4 mg/cc) 1 cc ampule (2)
5. Benadryl tablets (25 mg) (10)



Fig. 2. External design with data sheets.

6. Aromatic ammonia capsules
7. Nitroglycerin tablets 1/150 gr.
8. Glucose (40% glucose solution)
9. Dextrose 50% for injections (50 cc)
10. D₅W (5% dextrose in water) - 0.2 NS (normal saline) solution i.v. (500 cc)
11. Sterile water for injections (10 cc)

Equipment (Fig. 4)

The equipment should be selected to reflect the training and capabilities of the dentist. Items such as laryngoscopes and endotracheal tubes can be dangerous in inexperienced hands and should be used only by trained personnel.^{13, 18, 19, 22} The equipment must also be suitable for treating both children and adults. Those items which are specific for the child patient will be noted with an asterisk.

1. Stethoscope
- *2. Blood pressure cuffs, child* and adult
3. Curved suction tip
- *4. Airways, child* and adult
5. Mouth prop

- *6. Cricothyrotomy kit (Medicut i.v. cannula 12 and 18 gauge*)
- *7. I.v. butterfly needles #21 and #23 gauge*
- *8. I.v. infusion sets, regular and microdrip*
9. Tourniquet
10. Disposable syringes, 3 cc (3) and 50 cc (1)
11. 6¼ in. curved hemostat (or suitable airway forceps)
12. Tongue blades
13. Adhesive tape
14. Alcohol sponges

Additional equipment (stored separately)

1. Oxygen tank and flow meter (1 hr)
2. Oxygen masks, assorted sizes
- *3. Resuscitation bag (child)*
4. Resuscitation bag (adult)
5. Oxygen connector tubing

It is imperative that the dentist be proficient in the use of any equipment that he intends to use for emergency therapy. An example is resuscitation by means of an Ambu-bag. It is not as simple as it may seem,

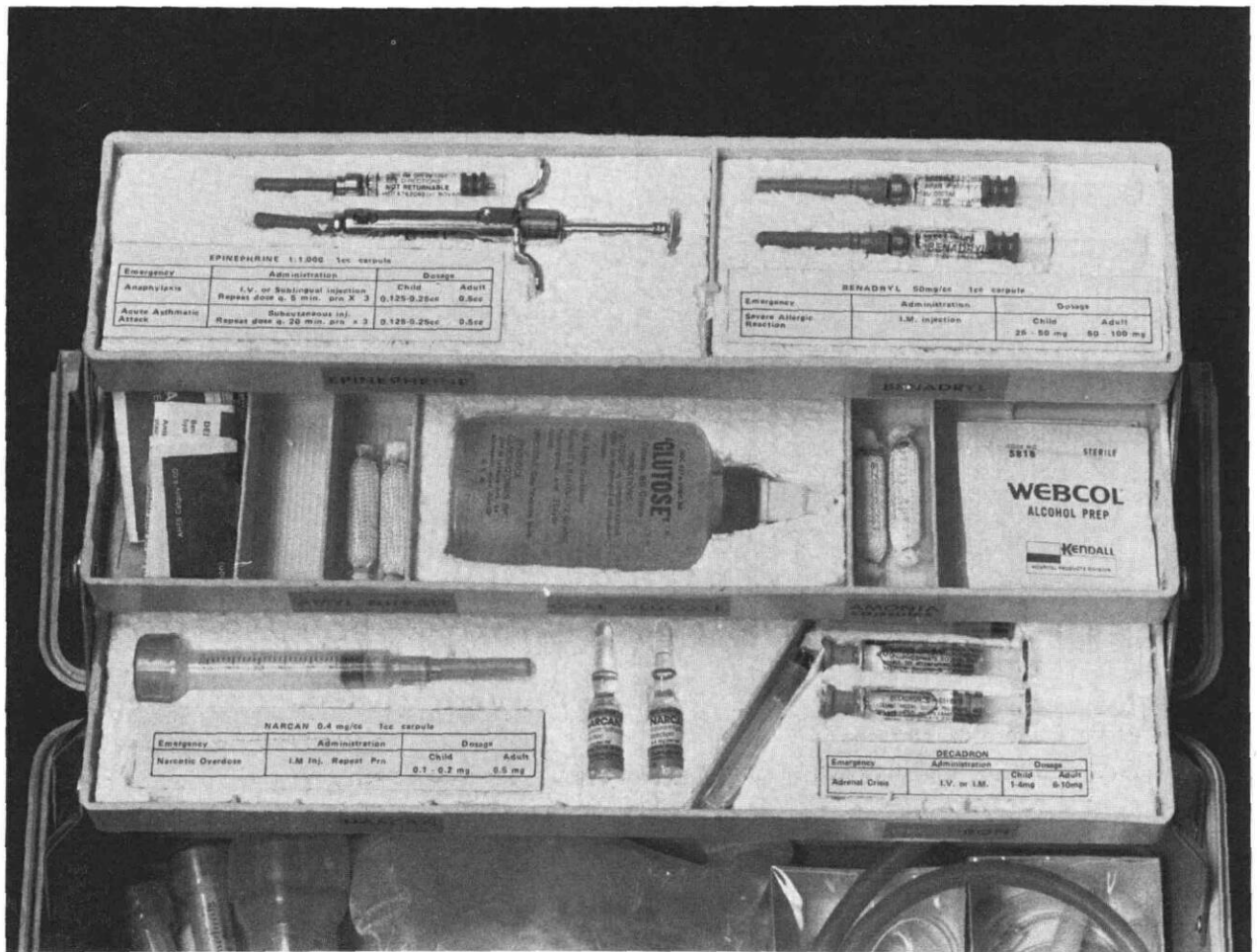


Fig. 3. Internal design—drug section.

and the proper use of a resuscitation bag requires practice and a certain degree of skill to be effective. The resuscitation equipment should have the capability of administering oxygen safely to the child patient as well as to the adult.

Summary

The pedodontist is responsible for providing dental treatment for patients without imposing unnecessary medical risks. Should an emergency occur, the pedodontist is obligated to perform whatever emergency treatment he can within the limits of his training in order to keep the patient alive until proper medical attention can be obtained. The pedodontist should be prepared for and capable of treating medical emergencies in either the child or adult patient. In order to be prepared to meet any possible medical emergency, the pedodontist must have the proper emergency equipment and drugs readily available. The extent of the equipment and drugs that comprise a pedodontist's armamentarium depends upon his/her training, knowledge, and capabilities in emergency care. An-

other factor in selection of equipment and drugs is the proximity of medical personnel. If the pedodontist is dependent upon a local physician for emergency help, it would be wise to consult the physician to determine any equipment or drugs that he would prefer the pedodontist to have available for him should he have to perform emergency therapy in the pedodontist's office.

The pedodontist must be thoroughly familiar with the equipment and all drugs that are maintained for use in emergency situations. It is not enough for the practitioner alone to be trained in emergency therapy; the entire staff should be trained and proficient in handling emergencies. This is best accomplished by periodic practice sessions.

The best form of emergency therapy is prevention. Thorough medical histories and follow-up consultations for underlying disease states can be invaluable in avoiding potential medical emergencies. There can be no argument against practicing defensively. A valuable adjunct to prevention is good rapport and proper consultations with the local medical personnel.

It is important to have a manual of possible medical

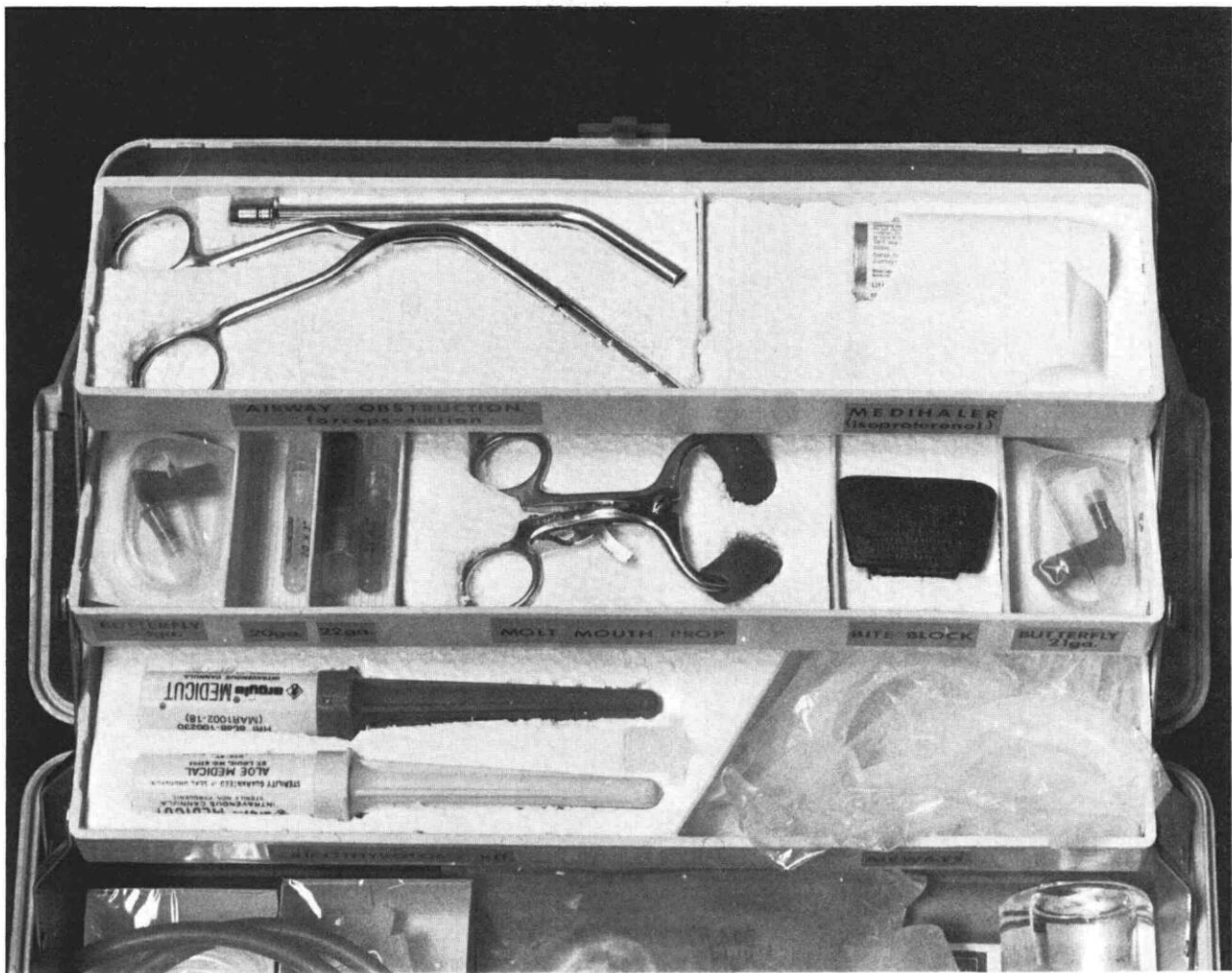


Fig. 4. Internal design—equipment section.

emergencies available for periodic review, which includes the duties required of the various members of the office staff. In addition, a quick reference on emergency therapy should be included.

The potential medical emergencies that may be encountered in a pedodontist's office, their symptoms, treatment, and precautions are discussed in a separate article titled, "Medical emergencies in the pediatric dental patient," that follows. The medical emergencies are discussed in detail, and specific modifications in treatment for the child patient are noted where applicable. In addition, a quick reference chart is provided for use by the practitioner.

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