

BASIC DENTAL EQUIPMENT LIST & INSTRUMENT REPROCESSING LOGISTICS FOR HOSPITAL OPERATING ROOMS



A GUIDE FOR HOSPITAL ADMINISTRATORS:

- INTEGRATE DENTISTRY AS A NEW HOSPITAL SERVICE
- A REFERENCE OF CURRENT DENTAL EQUIPMENT AND INSTRUMENTS FOR HOSPITAL DENTISTRY PROGRAMS



Produced by the Canadian Dental Association
National Coordinating Working Group on Access to Care
June 2019

INTRODUCTION

This short guide is intended to help hospital administrators that want to include basic dental care for patients under general anesthesia at their hospital. It is also intended to support the requirements and logistics related to instrument reprocessing and sterilization for the operating room (OR) environment based on six (6) patients being seen for dental care in the OR, one day per week (1d/week).

The guide was produced by the Canadian Dental Association (CDA) National Coordinating Working Group on Access to Care, which comprises a panel of dentists that actively provide dental care in a hospital OR environment. A key consideration of the guide is integrating dentistry as a new service into the programs and services offered by a hospital. Canadian hospital dentistry programs may also reference this guide to review current basic dental equipment and instruments.

For individuals with cognitive disabilities, dental treatment in a hospital OR is often the most viable (or only) option. To help prepare these patients for the OR, pre-op facilities such as “safe rooms” with lower light levels, sound attenuation and general reduction in other stimulus are also invaluable in improving the overall patient experience, especially for those patients on the autism spectrum.



GENERAL CONSIDERATIONS

Each dental team at a hospital OR generally consists of a dentist and trained dental assistants. Dentists and their assistants are typically seated while performing care. CDA panel members have suggested that typical OR stools work quite well; ordering specific dental chairs is therefore not required nor recommended. Dentists commonly perform multiple types of procedures in a single appointment and the recommended dental equipment list reflects the tools required to ensure that all basic dentistry can be completed as efficiently as possible. Treatments like endodontic therapy (i.e. root canals) involve integrated equipment systems that allow all aspects of a procedure to be completed and therefore are now often produced and sold as integrated systems.

Different procedures require a series of specific hand instruments associated with a specific type of procedure (e.g., dental hygiene, restorative, endodontics and oral surgery). Standard cassettes, with individual slots for each instrument, are now commonly used in dentistry and provide easy access and consistent positioning of instruments within the cassettes.

For the purpose of this basic dental equipment list, six (6) full instrument cassette set-ups are recommended based on six (6) individual cases being completed in the OR, one day per week (1d/week). Additional cassette set-ups may be required if dentistry is being performed in the OR more than one day per week. Digital radiography (X-rays) are an integral part of care provided in the OR, as pre-treatment X-rays are often not available prior to the appointment in the OR.

The suggested equipment outlined in this document supports the provision of essential dental care such as operative, routine oral surgery, oral cleaning, and endodontics (root canals). Specific requirements for each hospital may vary based on individual hospital OR configurations and services. A series of photographs illustrate some of the equipment referred to in the list and are included as Annex 1.

BASIC DENTAL EQUIPMENT LIST FOR HOSPITAL OPERATING ROOMS

OR gurney

- One (1) gurney that can be set approximately 4-6 inches lower than standard models. This feature greatly facilitates the positioning of the patient and allows for efficient provision of care (Photo 1)

Dentist's cart

- One (1) cart with a connection to compressed air and water, with outlets for high-speed and slow-speed instruments, and a water syringe (Photo 2)

Assistant's Table-Cart

- One (1) electrically-powered, flat-top, table-cart (~3 ft. x 3 ft.) with accessible electrical outlets and storage drawers for specific materials and supplies. The assistant's table-cart should hold the following equipment that uses a standard 110V electrical source/outlet (Photos 3a and 3b):
 - Dental amalgam triturator¹ (Photo 4)
 - Dental curing light (an outlet is required for the charging unit)
 - Ultrasonic scaling unit (electrical and water connection required) (Photo 5)
 - For Endodontic (root canal) treatment (electrical outlet required):
 - Apex locator (endodontic therapy)
 - Endodontic handpiece (endodontic therapy)
 - Endodontic gutta percha heater (endodontic therapy) or heated condenser
 - Files and obturation materials
 - Common dental materials, including:
 - Glass ionomer
 - Composite resin
 - Silver amalgam
 - Calcium hydroxide (CaOH) temporary lining materials
 - Stainless steel crowns (in adult size)
 - Glutaraldehyde

Radiographic Equipment:

- One (1) portable dental X-ray unit (Photo 6)
- One (1) portable stand on wheels, to allow the X-ray unit to be rolled into position (Photo 7)
- One (1) digital censor (consider size 2 as a general-use censor for the OR) (Photo 8)
- Dental imaging software
- One (1) computer tower and monitor to view, process and store X-ray images (Photo 9)

Dental Instruments: Cassettes and Instruments

- Six (6) restorative cassettes, supplied with all instruments for amalgam and composite restorative procedures. Each restorative cassette should have high-speed and slow-speed instruments included (Photo 10)
- Six (6) set-ups containing one (1) sterilizable burr block and burrs for use in restorative procedures (Photo 11)
- Six (6) endodontic cassettes containing endodontic hand instruments
- Six (6) hygiene cassettes containing hand scalers and two (2) ultrasonic scalers tips (heavier and finer grade) (Photo 12)
- Six (6) oral surgery cassettes with surgical instruments, including surgical burrs and one (1) surgical handpiece

¹ Amalgam separators are generally required in the suction systems in most jurisdictions in Canada and may need to be installed.

ANNEX 1: PHOTOS OF BASIC DENTAL DENTAL EQUIPMENT FOR THE HOSPITAL OR



Photo 1: Gurney in the 'lower' position that allows a dentist to sit behind a patient while performing treatment.



Photo 2: Typical stool for a dental assistant with support bar.

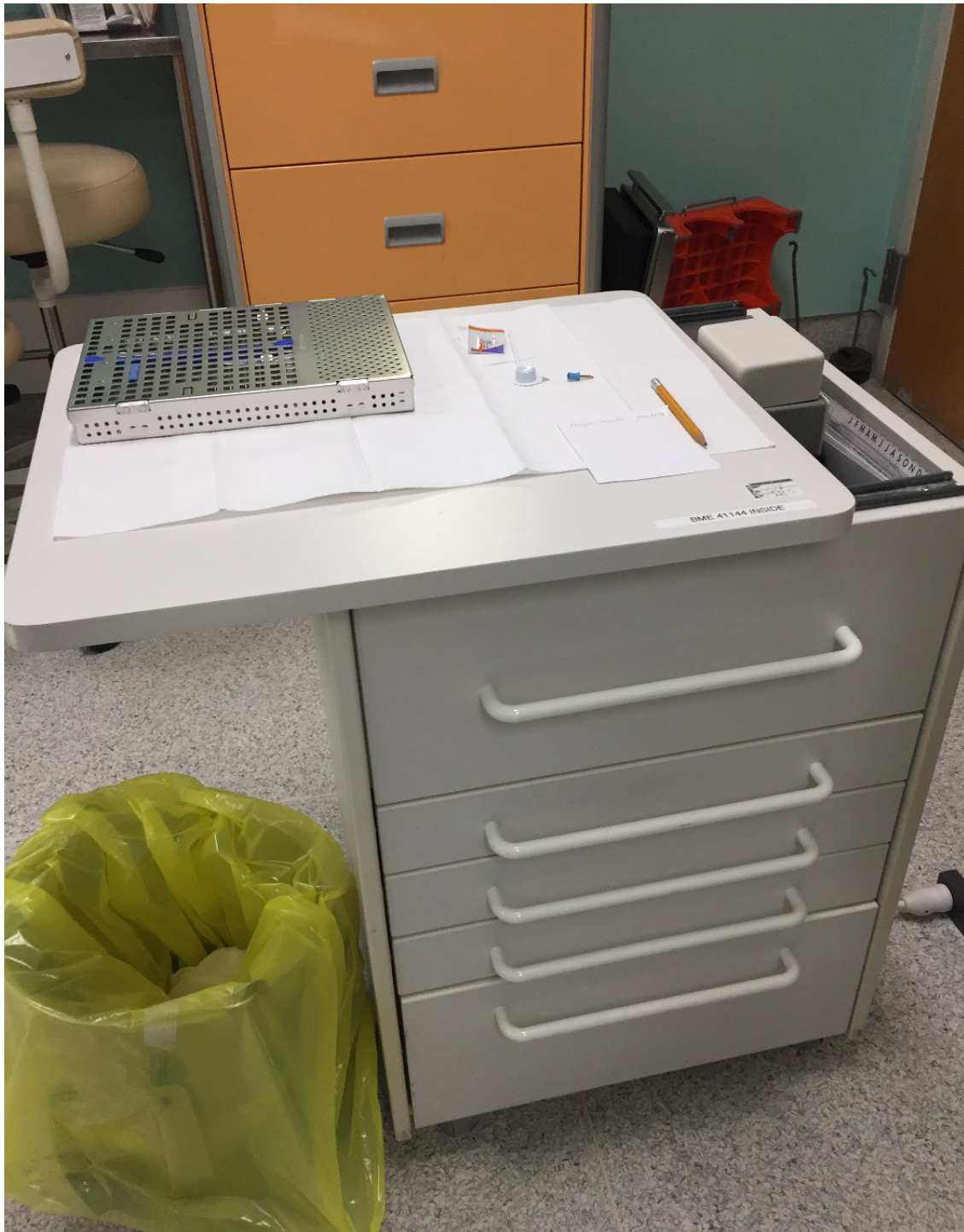


Photo 3a: Dental assistant's table-cart with drawers for dental equipment and supplies.

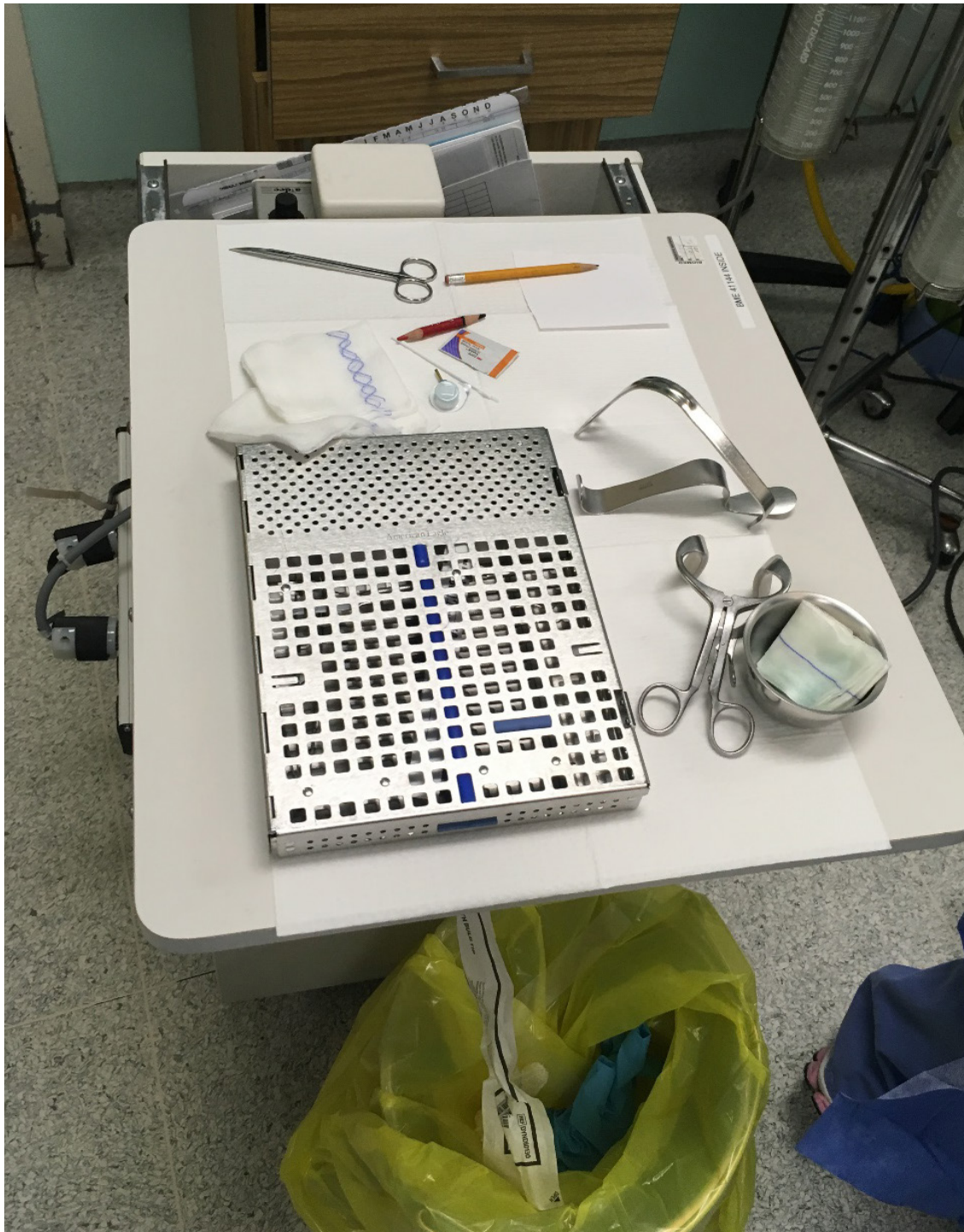


Photo 3b: Dental assistant's table-cart with instrument cassette and other instruments to be used during the procedure in the OR.

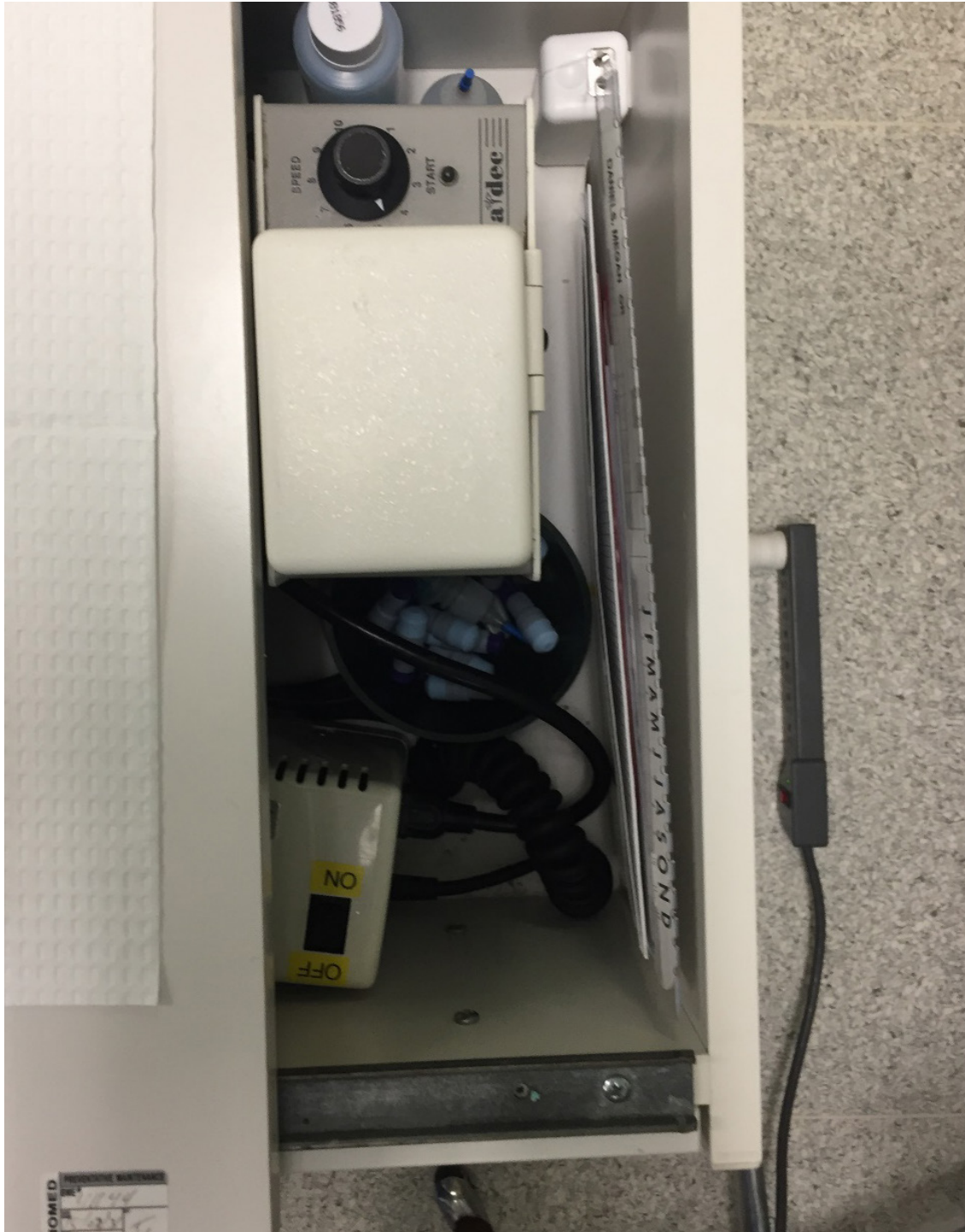


Photo 4: Dental amalgam triturator stored and powered in the dental assistant's table-cart with drawers.

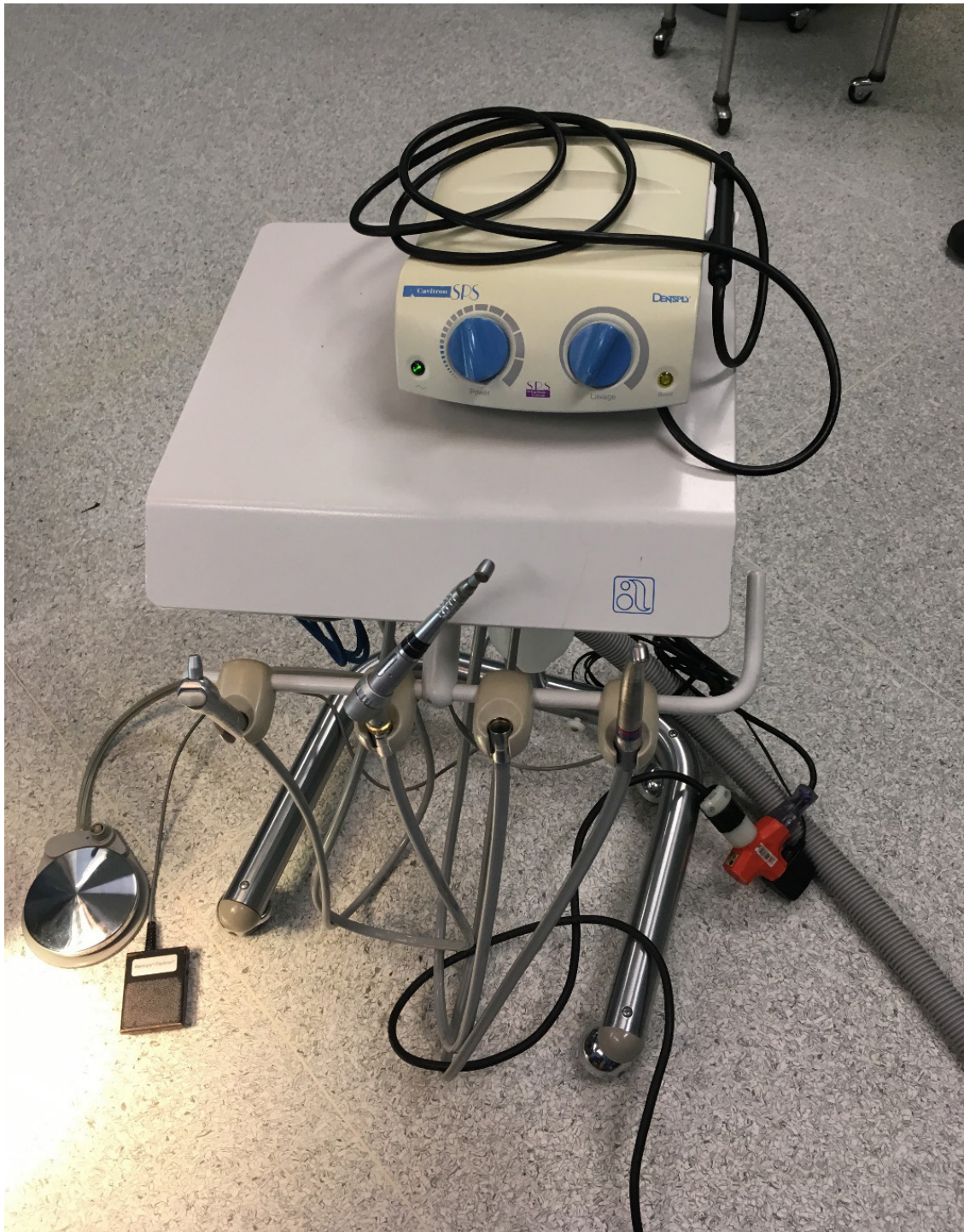


Photo 5: Dentist's operator cart for slow- and high-speed dental handpieces connected to OR compressed air suction. NOTE: An ultrasonic scaling unit is sitting on top of the operator's cart and connected to

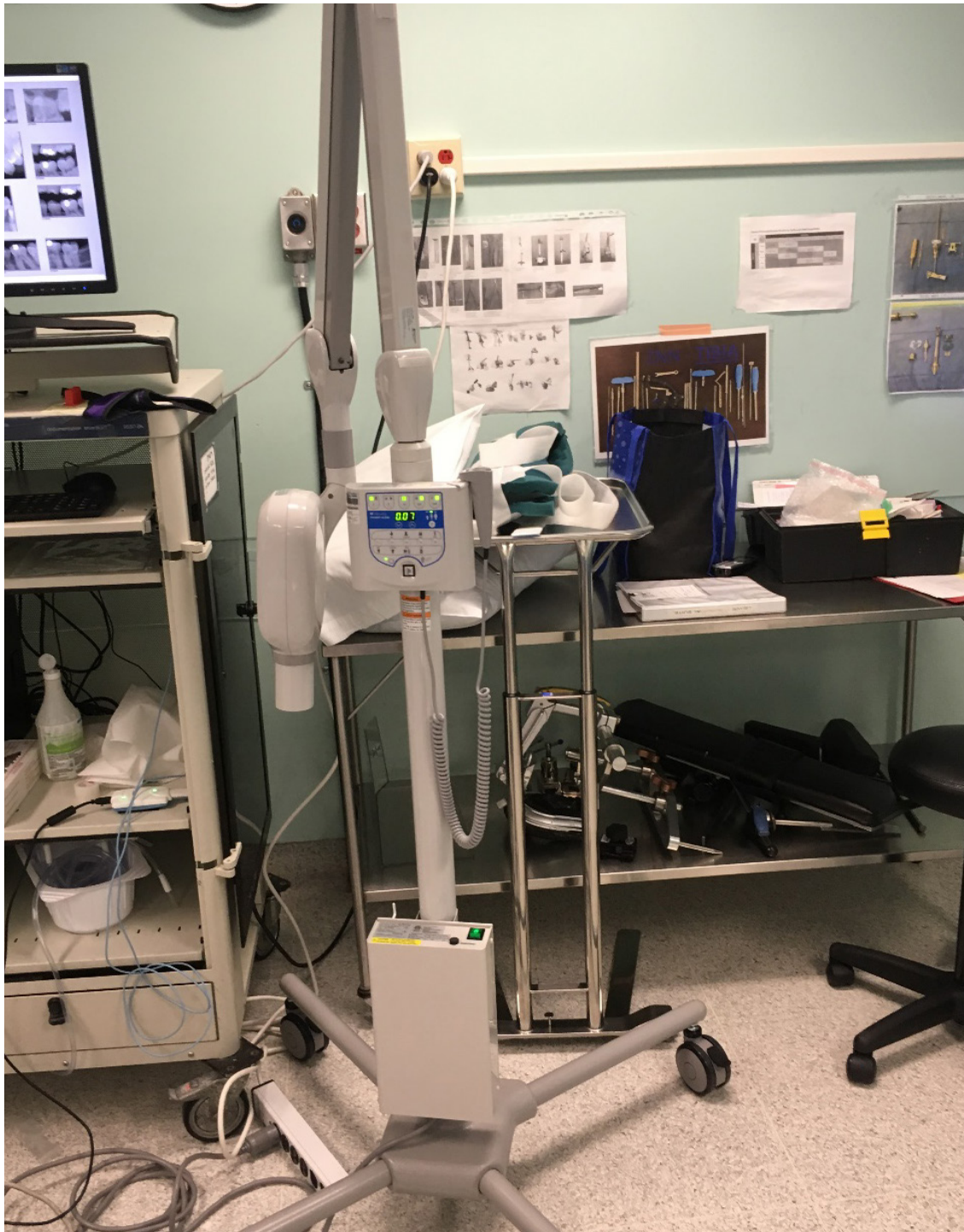


Photo 6: Portable stand (on wheels) to house the portable dental X-ray unit.



Photo 7: The dental X-ray unit on a portable stand (on wheels).



Photo 8: Digital sensor being positioned to allow dentist to take a dental X-ray.

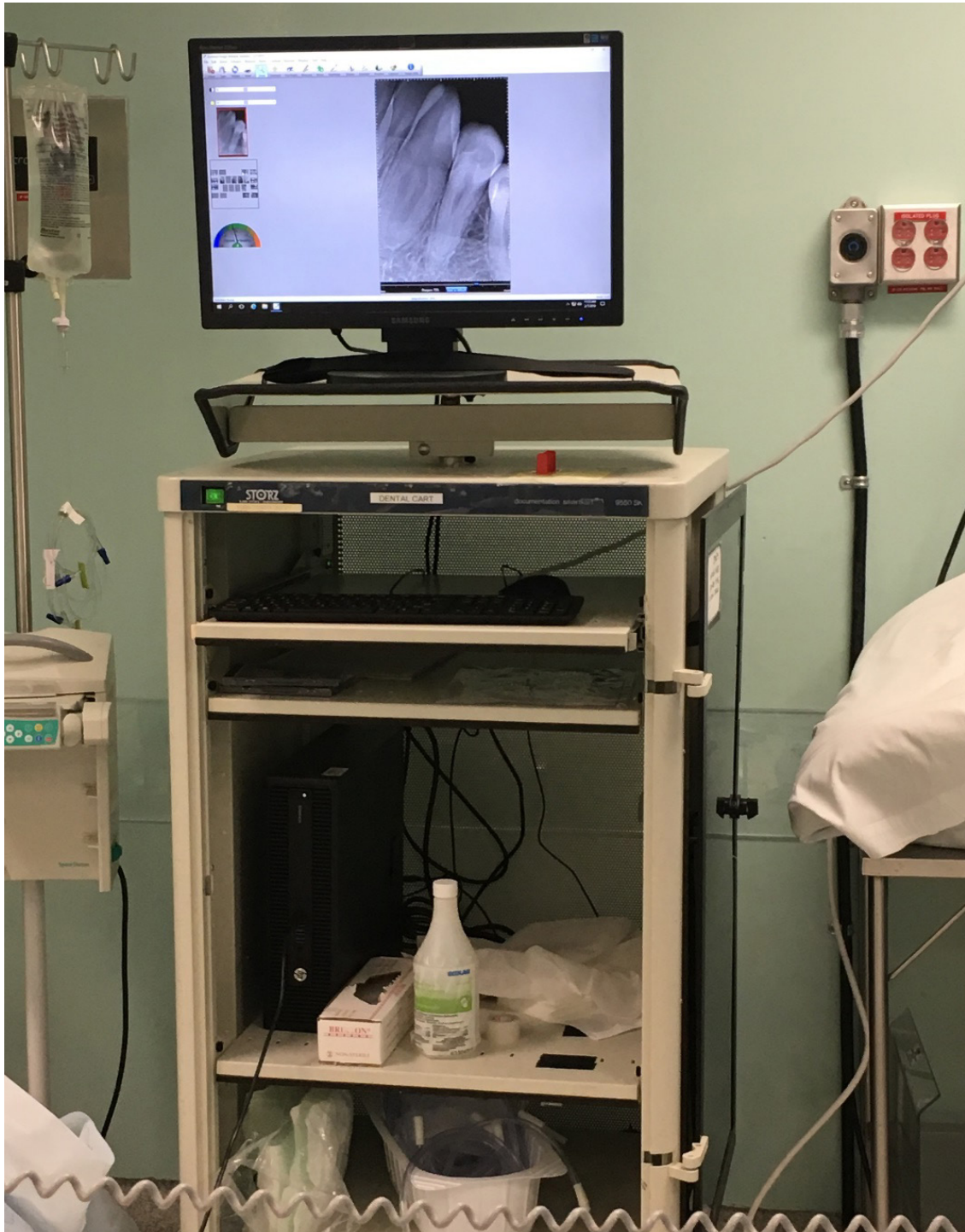


Photo 9: Digital dental image, computer tower and monitor to review X-rays.

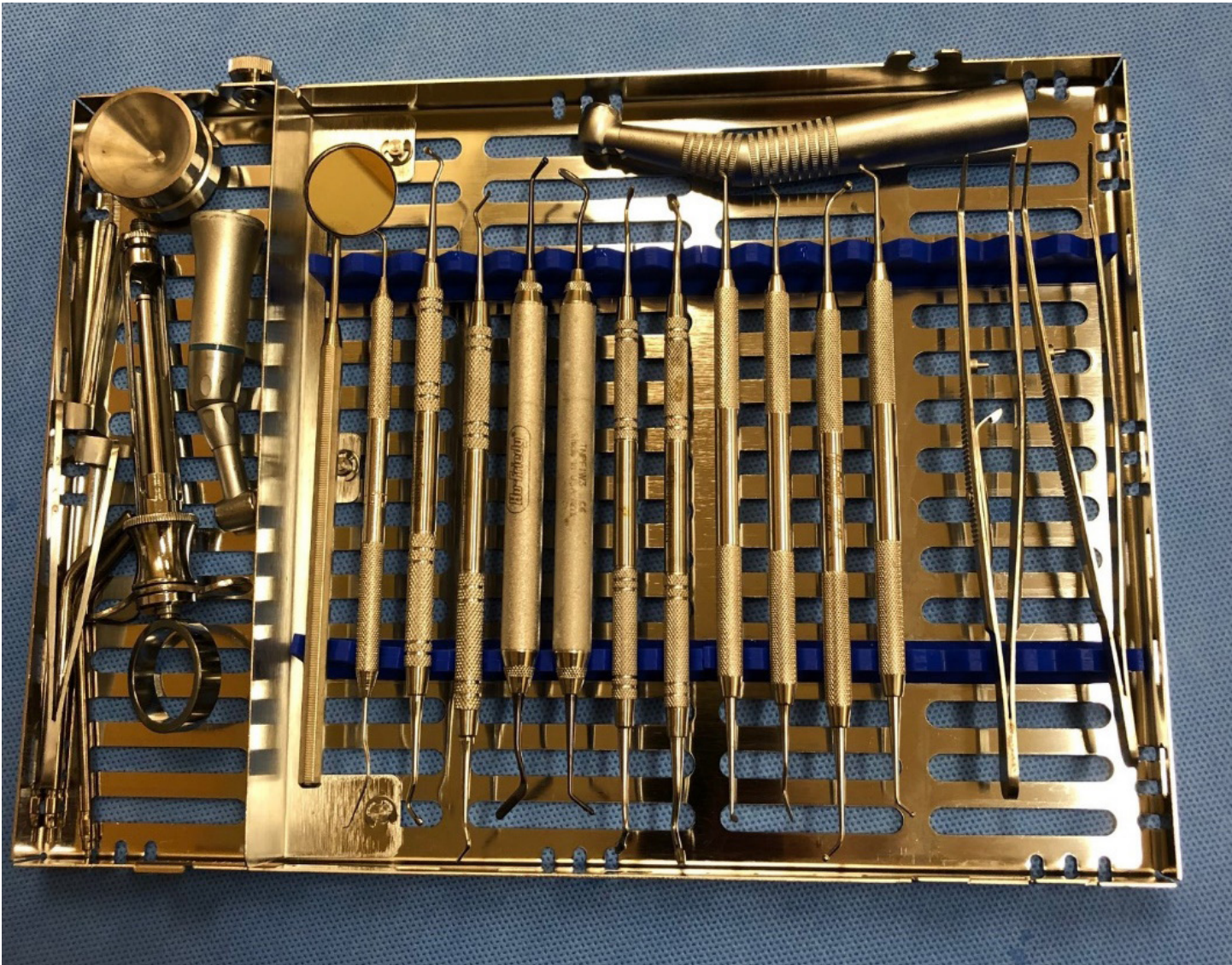


Photo 10: Sample restorative cassette for the OR.



Photo 11: Burr block with burs (ranging from fine to heavy) electrical and water supply from the cart.



Photo 12: Sample hygiene cassette for the OR.

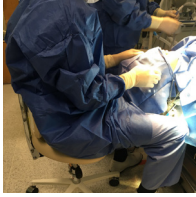


Photo 1: Gurney in the 'lower' position that allows a dentist to sit behind a patient while performing treatment.



Photo 6: Portable stand (on wheels) to house the portable dental X-ray unit.

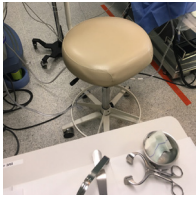


Photo 2: Typical stool for a dental assistant with support bar.



Photo 7: The dental X-ray unit on a portable stand (on wheels).

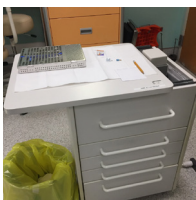


Photo 3a: Dental assistant's table-cart with drawers for dental equipment and supplies.



Photo 8: Digital sensor being positioned to allow dentist to take a dental X-ray.

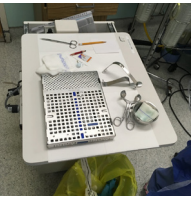


Photo 3b: Dental assistant's table-cart with instrument cassette and other instruments to be used during the procedure in the OR.

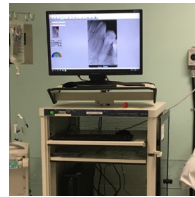


Photo 9: Digital dental image, computer tower and monitor to review X-rays.



Photo 4: Dental amalgam triturator stored and powered in the dental assistant's table-cart with drawers.



Photo 11: Burr block with burs (ranging from fine to heavy)

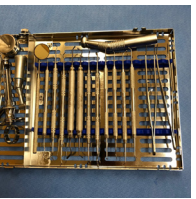


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Photo 12: Sample hygiene cassette for the OR.

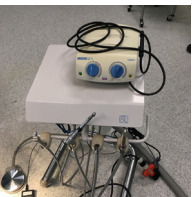


Photo 5: Dentist's operator cart for slow- and high-speed dental handpieces connected to OR compressed air suction. NOTE: An ultrasonic scaling unit is sitting on top of the operator's cart and connected to electrical and water supply from the cart.

ANNEX 2: MEMBERS OF THE CANADIAN DENTAL ASSOCIATION NATIONAL COORDINATING WORKING GROUP ON ACCESS TO CARE

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