Dental Clinical Ergonomics

Study module resource

6. Intraoral Mirror Usage

Source: UBC Faculty of Dentistry

Intro

- The dental mirror is probably the most important, but under-utilized, instrument in the armamentarium.
- Good mirror use provides more opportunities for balanced positioning.

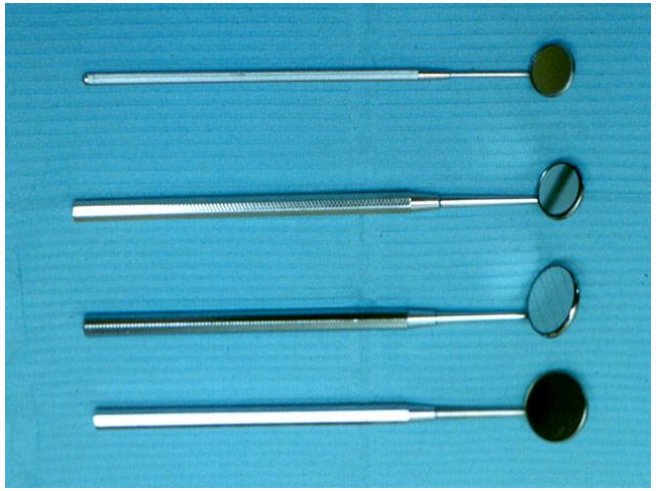
Mirror Selection

- Features of intraoral mirrors should be considered for their implications for balanced operator positioning:
  - Size
    - The larger the mirror, the harder it is to get access
    - Too small a mirror limits the size of the visual field
  - Diameter of handle
    - The larger the diameter, the more finger/hand movement is required to move the mirror
  - Angle of mirror face to handle
    - If the angle is less than 45 degrees: the clinician will be denied a full range of views within the oral cavity OR the clinician's mirror hand will frequently block the assistant's access to the oral cavity.

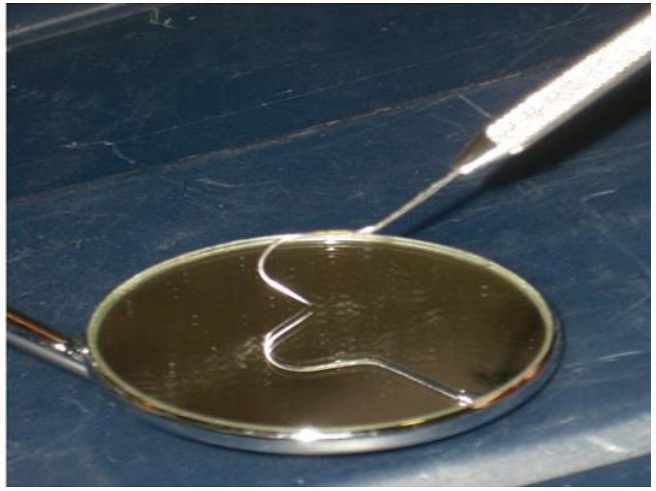
Mirror Selection

- Material
  - Stainless or other metallic mirrors can be adjusted to maintain their 45 degree face angles, provided they were manufactured at that angle
- Front-surface vs. back-surface mirrors
  - In general, front-surface mirror technology is superior for clinical practice
  - Clinicians reported “ghosted images” reflected by back-surface (or rear-surface) mirrors

Mirror Selection



Mirror size



Front-surface vs. back-surface mirrors

Mirror face angle

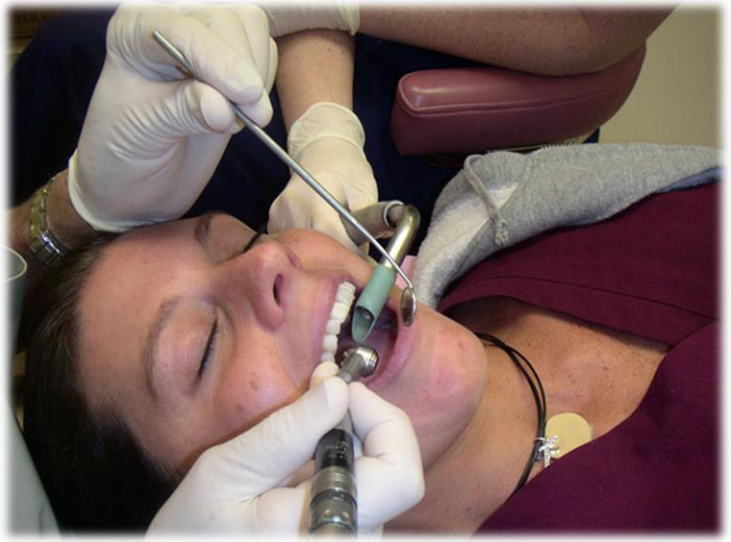
Mirror use and manipulation

- Unable to visualize the operating site directly: you must use a mirror to preserve your operating balance
- With a direct view of the operating site: an intraoral mirror may be unnecessary for the current task
- Even in such situations, it may be good to choose to use a mirror for additional lighting of the site.
- The mirror face (or back of the face) may be used for retraction of the tongue or cheek. However, the handle of the mirror should not be used as a retractor.

Mirror use and manipulation

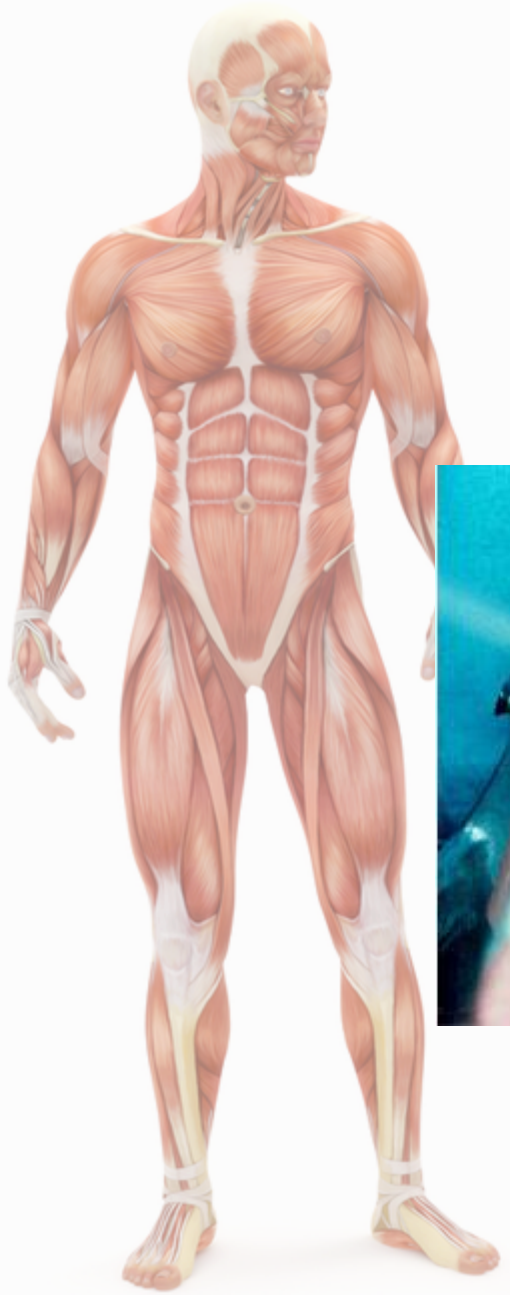
- A mirror should be held lightly, and should be lowered into the mouth with the handle held no more than 45 degrees from the vertical.

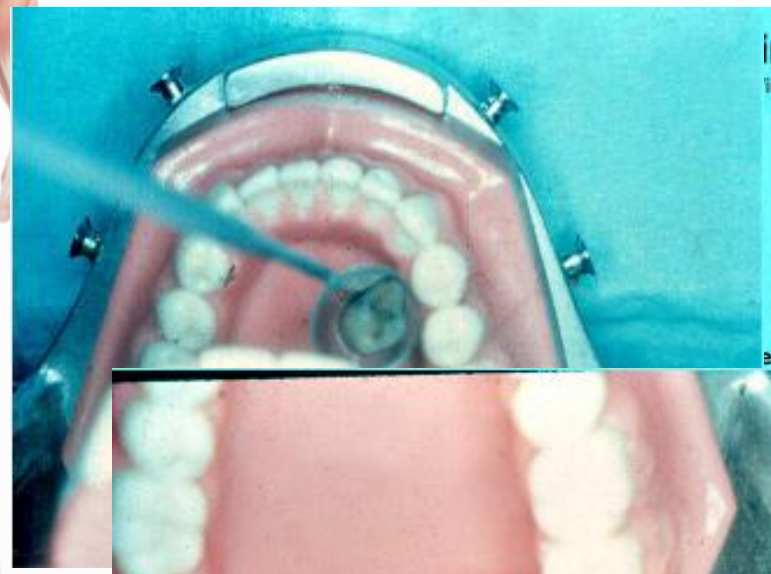
- Orbit, cheek, and forehead are all suitable stabilization areas.

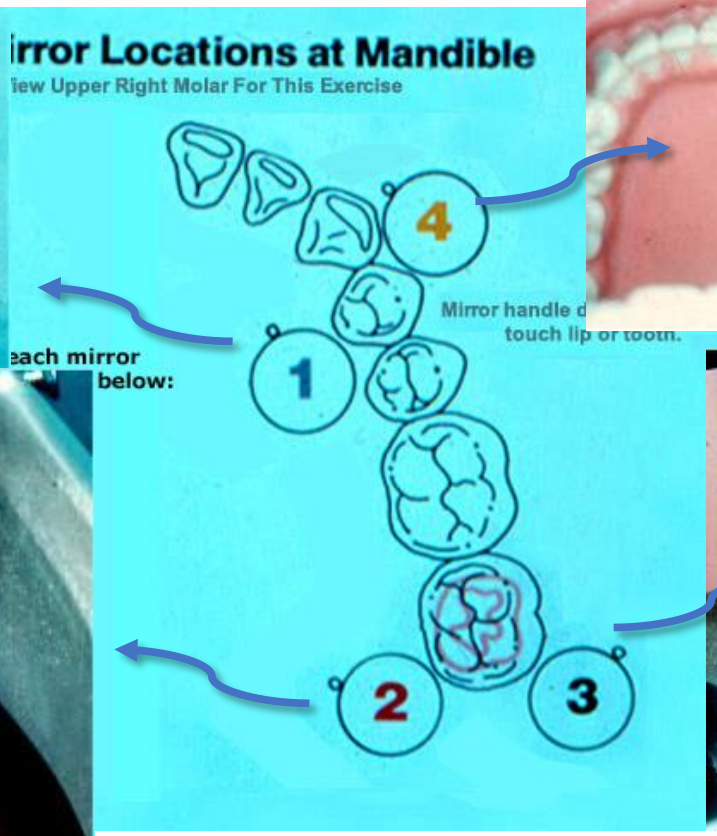


Range of mirror views

- The view of any target site can be divided
  (quadraspheres, actually) as shown in the







Range of mirror views

- The resulting views are only four of an infinite range available throughout the sphere of viewing.
- Sometimes you cannot achieve the whole range of views because:
  - Spray-back zones from handpieces or ultrasonic scalers
  - Patient tissues
  - Clinician (or assistant) hands or instruments
- Ultimately, even in restricted working areas, you will be able to find a range of views which will allow optimal balance and vision.

Next

Ten-step Problem-solving Process

With Special Thanks To:

- Dr. Lance Rucker, DDS
- Dr. Susanne Sunell, Ed.D, RDH