NIMDTA
Northern Ireland
Medical & Dental Training Agency

Dental Radiography Film Holders

Nicky Shanks
Dental Advisor for Simulation & Quality
NIMDTA

NIMDTA
Northern Ireland
Medical & Dental Training Agency

Aim

This session aims to discuss and explain the benefits of using dental intra-oral film holders and demonstrate the assembly of dental intra oral film holders.

NIMDTA
Northern Ireland
Medical & Dental Training Agency

Learning outcomes

By the end of this session the successful delegate should be able to:

- Describe the benefits of using dental intra-oral film holders
- Demonstrate how to assemble dental intra-oral film holders

GDC Development Outcomes: A, C

IRMER

NIMDTA
Northern Ireland
Medical & Dental Training Agency

Ionising Radiation (Medical Exposure) Regulations 2017 often known as IRMER, it is an overall umbrella under which the team works to ensure that X-ray films are taken to the highest standards with the lowest possible exposure that gives a good diagnostic image.

ALARA

The patient dose must be “as low as reasonably achievable”.

Film holders incorporating beam-aiming devices using the paralleling technique and facilitating rectangular collimation should be used for intra-oral radiography wherever possible.

Dental nurses's role in IRMER team

NIMDTA
Northern Ireland
Medical & Dental Training Agency

- Often the first person to be in contact with the patient
- Ensuring the patient details are in order
- Previous radiographs are on hand to view
- Setting up of film holders
- Documentation of the radiographs that are taken e.g. no. of films taken, exposure factors, processing or scanning of films

NIMDTA
Northern Ireland
Medical & Dental Training Agency

A rectangular collimator reduces the beam dimensions in periapical and bitewing radiography

Why use film holders?

NIMDTA
Northern Ireland
Medical & Dental Training Agency

- attempted to standardize radiographic images and techniques
- allow easy and predictable alignment of the X-ray tube
- reduce radiation dose to patient

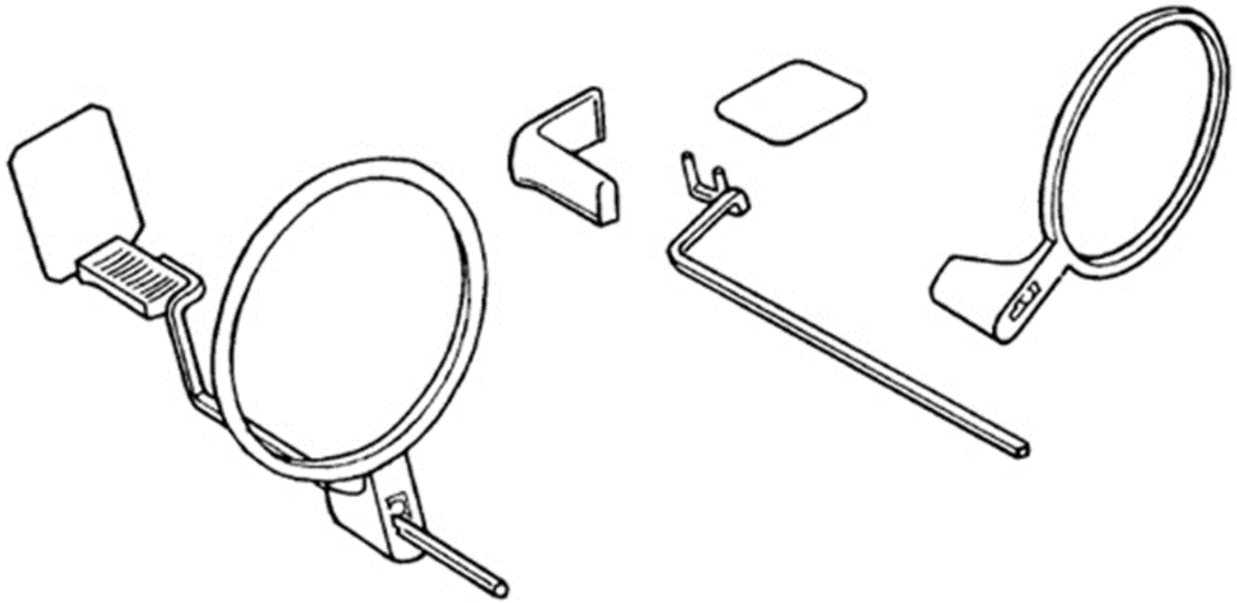
Image quality advantages

NIMDTA
Northern Ireland
Medical & Dental Training Agency

- The film is more parallel to the tooth and allows a more reproducible and less distorted image to be taken
- Most film holders incorporate a stalk which is outside the mouth that allows accurate location of the x-ray beam to cover the film
- Used properly the film is less likely to move than if held by the patient

Assembly of film holders

NIMDTA
Northern Ireland
Medical & Dental Training Agency



- plastic bite-blocks
- indicator rods
- plastic locator rings

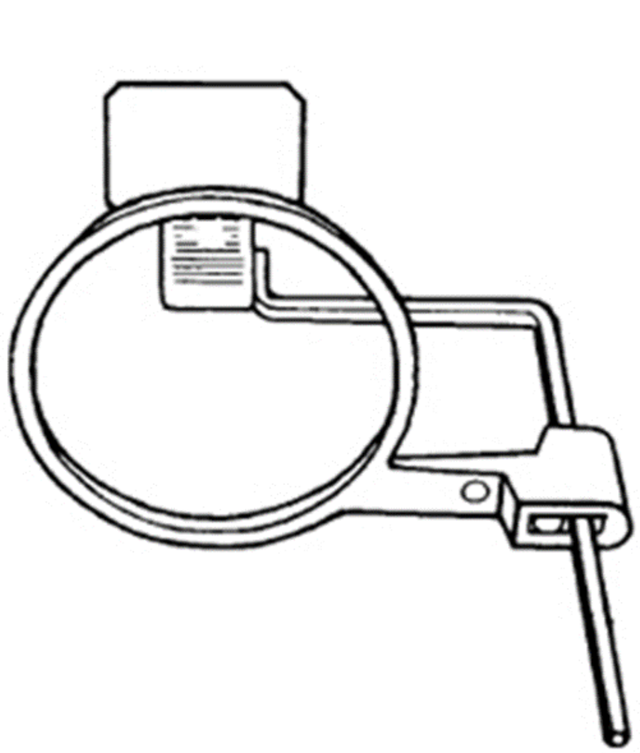
Anterior instrument assembly

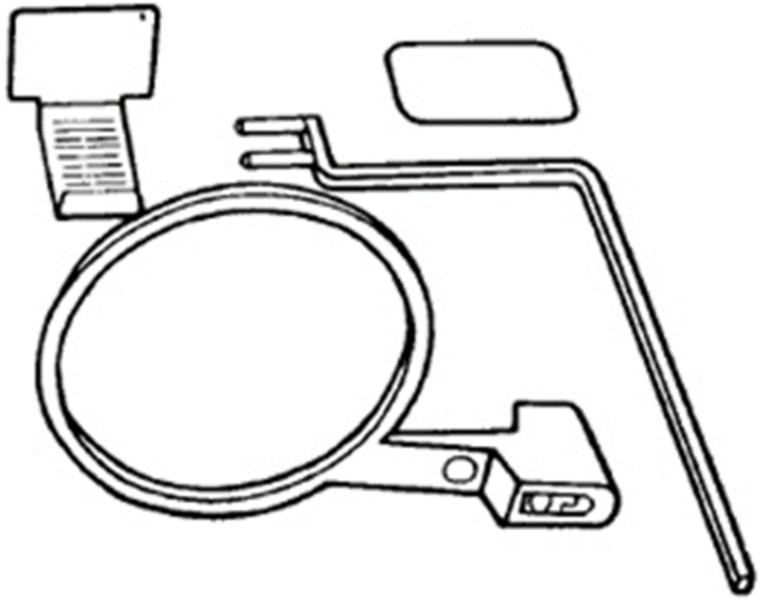
NIMDTA
Northern Ireland
Medical & Dental Training Agency

1. The shielded or printed side of the film packet is placed against the backing support of the bite-block
2. It is inserted vertically into the slot by using a downward motion and, at the same time, placing slight pressure against the backing support to open the slot
3. There is an embossed dot on the corner of the periapical film. This embossed dot is always placed in a downward position when placing the film into the slot on the plastic bite-block
4. The offset position of the indicator rod is held away from the biting surface of the block. The pins are inserted in the proper holes
5. The plastic locator ring is fitted onto the indicator rod opposite the film packet
6. The assembly is then positioned in the mouth

Posterior instrument

NIMDTA
Northern Ireland
Medical & Dental Training Agency





Posterior instrument assembly

NIMDTA
Northern Ireland
Medical & Dental Training Agency

1. The shielded, printed or broken side of the film packet is placed against the backing support of the bite-block
2. It is inserted horizontally into the slot by using a downward motion and, at the same time, placing slight pressure against the backing support to open the slot
3. The embossed dot on the corner of the film is also placed in a downward position when placed in the plastic bite-block
4. The right angle portion of the indicator rod is held anterior to the bite-block and away from the film
5. The pins are inserted into the proper holes. (The three holes allow a choice for the desired lingual positioning of the film.)
6. The plastic locator ring is fitted onto the indicator rod opposite the film packet
7. The assembly is then positioned in the mouth.

Careful technique

NIMDTA
Northern Ireland
Medical & Dental Training Agency

Includes:

- Good communication with patient to let them know what is expected
- Head immobilisation using head rest for intra-orals or chin rest and head clamp for panoramic films
- Correct positioning of film and angulation of tube head for intra-orals
- Use of film holders to help achieve the correct relationship of teeth, film and beam
- Correct exposure selection
- Removal of radiopaque objects prior to exposure. Earrings, necklaces, braces, spectacles will all cause obvious artefacts on the image, and may obscure important features.

Questions?

NIMDTA
Northern Ireland
Medical & Dental Training Agency