

There are many reasons why a second radiograph or a copy of the original is required. We need not discuss lost radiographs here. A patient may leave your practice for any of several reasons or you may wish to refer a patient to a specialist, etc. Too many dentists simply take another radiograph but there is the **moral** dilemma of exposing the patient to additional radiation. Where a radiograph is required for medico legal reasons, the patient will often not submit for a second radiograph or treatment has been done and a pretreatment radiograph is required. e.g. insurance companies often ask for a radiograph of a tooth that had endo and before the post crown was placed.

With periapical radiographs, double film packets are available. The cost of the two films per packet is about \$8.00 per box (150 films) more; about an additional 5 cents per film packet. Thus, it is recommended that one always uses double film packets, ensuring a **duplicate copy** automatically. The **exposure time is the same**, the patient receives no more or less radiation and the density and detail of the 2 films is the same to the naked eye. One can purchase duplicating film, the same size as the number 2 periapical radiographs. Most periapical duplicating film now has an indicating dot on it.

With extra -oral films, one can place a second film in the cassette. Where this is done, the kVp should be increased by about 5 kVp. The manufacturers recommend special film and screen combinations where this is done but little difference can be seen with the naked eye between the two techniques. At this School we are not utilizing the special screen technique. The film nearer the source will have slightly better detail and more density.

### Duplicating film.

Duplicating film can be purchased and there are several sizes from which to choose. There are size 2 periapical film, panoramic size as well as 10 x 12 inch sizes. The duplicating film is very expensive. A duplicating unit has an exposure timer that can adjusted. At this school we are utilizing an exposure time of 30 - 40 seconds per exposure. Different duplication film requires different exposures.

Duplicating film is single emulsion film. In the darkroom, the one side of the film will appear lighter than the other side of the film. The lighter side of the film must be placed toward the light in the duplicating machine. *Light to light*. If one is using the size 2 film the dot on the duplicating film must be placed in the same position as the dot on the original film.

The technique and principle of duplicating film is **exactly the opposite** as the exposure times for conventional film exposure. With duplicating film, the longer the exposure time, the lighter the density of the resultant copy. Exposure time is about 30 seconds. Thus if one duplicates a radiograph and the copy is a little too dark, when another copy of the same film is made, the exposure time should be increased ( by about 25% - or 8 - 10 seconds). Conversely, if a copy of a film is made and the film is too light, when another

copy of the same film is made, the exposure time should be decreased ( by at 25% depending on the density).

This also means that one is able to choose to make a copy lighter or darker than the original radiograph. This often is desirable where the original is too dark or too light. Where one wishes to make photos of radiographs, it is often preferable if the radiograph is slightly on the light side. By increasing the density, there is usually no improvement in the detail of the images.