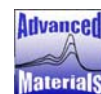




INTERNATIONAL SPECIALTY PRODUCTS

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GAFCHROMIC® XR-RV2 Dosimetry Film
User reference guide for
**Visual evaluation of the surface peak skin dose using a
comparator strip.**



A BUSINESS UNIT OF ISP



I. PURPOSE

This protocol is for use in visually estimating the exposure dose of GAFCHROMIC®XR-RV2 dosimetry film using a printed comparator strip.

II. SCOPE

GAFCHROMIC® XR-RV2 dosimetry film is used to record and measure patient skin exposure during interventional procedures. It is generally not required for there to be a high degree of accuracy in measuring skin dose. The GAFCHROMIC® XR-RV2 Comparator Strip provides a simple and quick means for estimating the dose to about $\pm 25\%$. If a more precise quantitative evaluation is required measurements must be made with a scanner or densitometer.

III. EQUIPMENT AND MATERIALS

- 1) Exposed sheet of GAFCHROMIC® XR-RV2 dosimetry film from a known lot number. Note the L and R denotes the orientation of the patient with respect to the film (See figure 1)

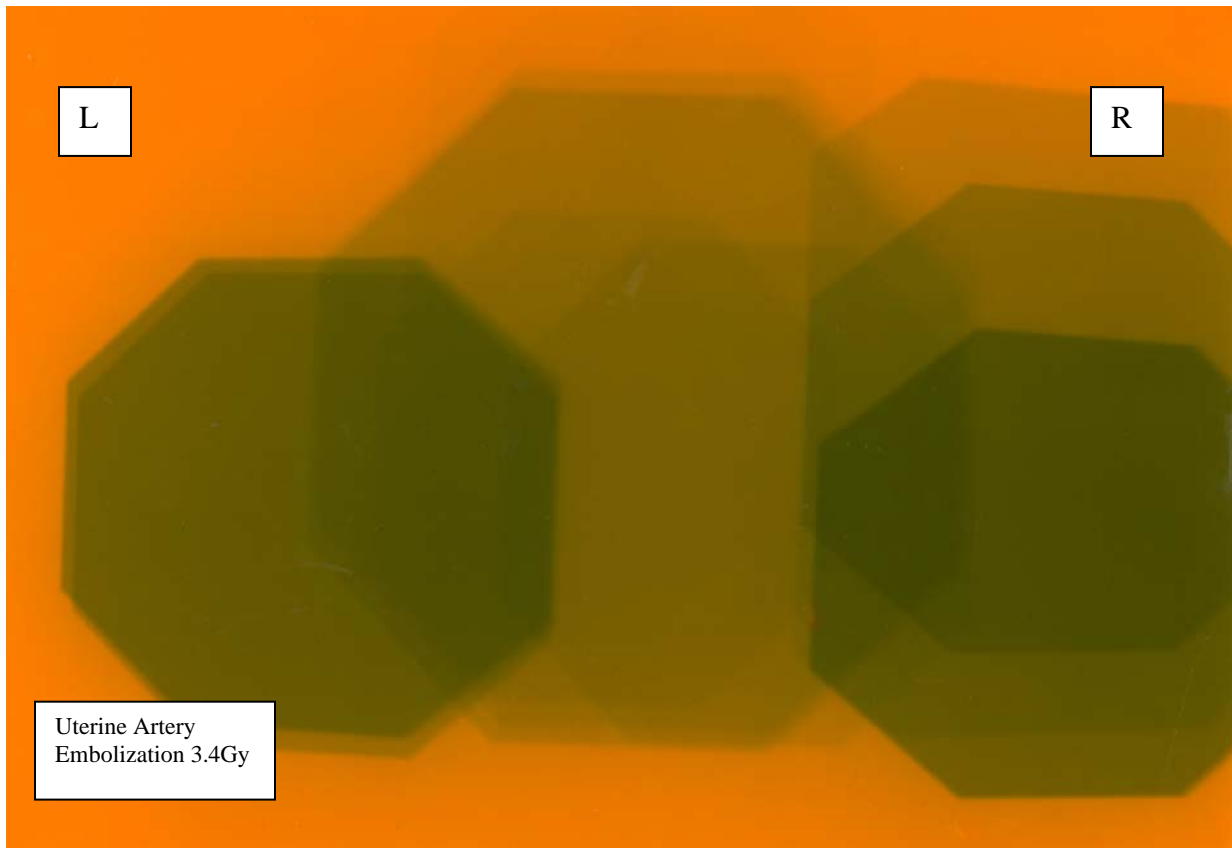


Figure 1: An exposed film with patient's orientation with respect to the film



- 2) A comparator strip for the lot number of the film to be evaluated (See figure 2)

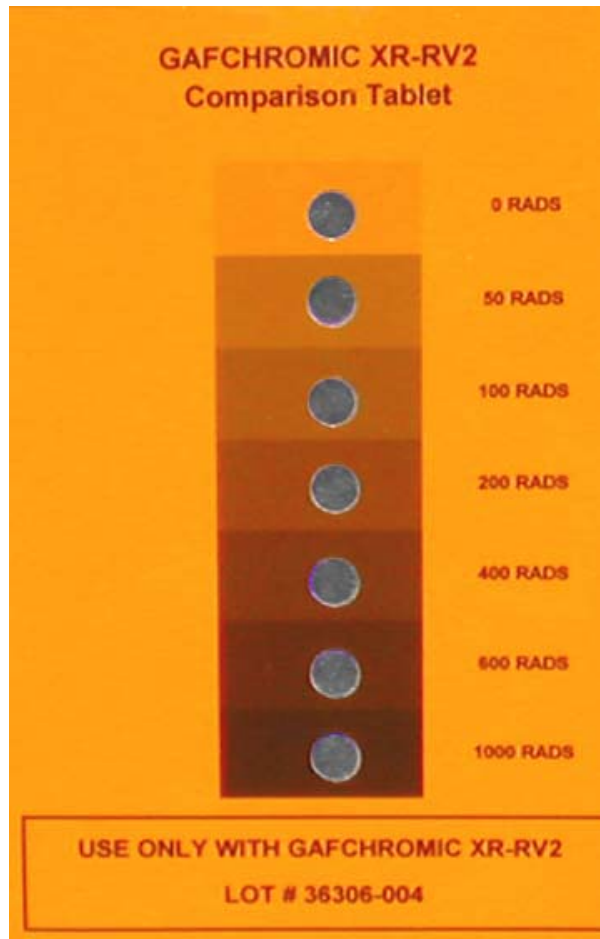


Figure 2: Comparator strip

IV. PROCEDURE

1. The protocol assumes that the patient has undergone the interventional procedure with a sheet of GAFCHROMIC® XR-RV2 dosimetry film placed close to the surface of the skin exposed to the radiation (see figure 3.). Common practice is not to put the film in direct contact with the skin, but separated by one or more sterilized surgical sheets. The film must be marked to indicate its orientation with respect to the patient, i.e. left-right, head-foot as indicated in Figure 1.



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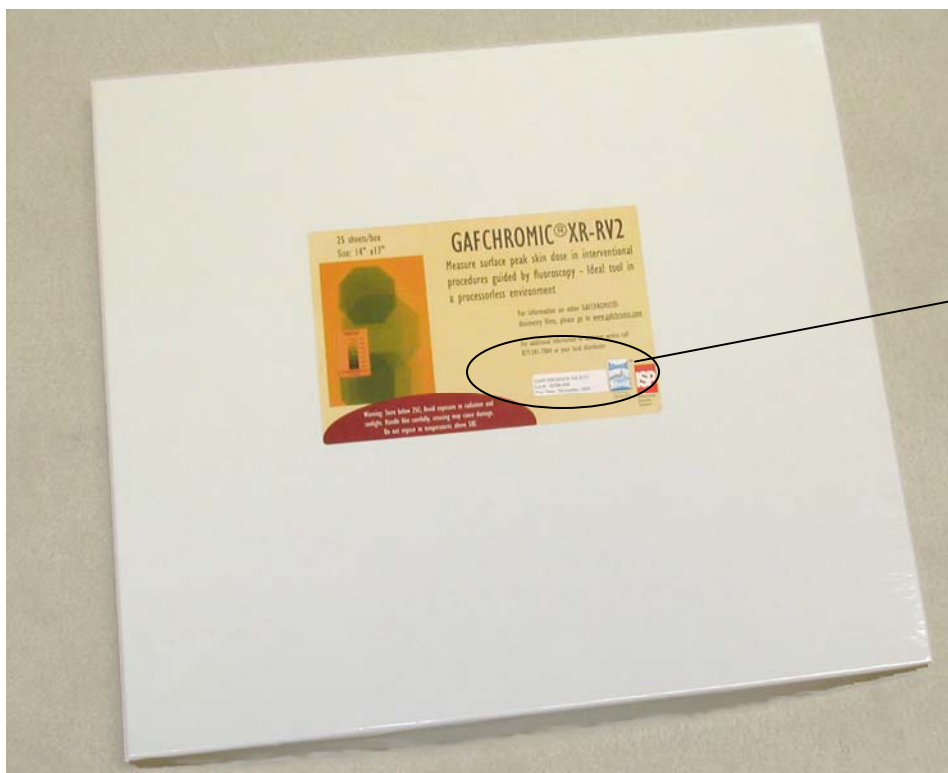
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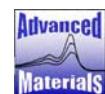
FILM

Figure 3: Film placed on the couch top with orange side facing up

1. Note the lot number on the label of GAFCHROMIC® XR- RV2 dosimetry film box. (See the circled area on figure 4.



Lot number





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2. Obtain a GAFCHROMIC® XR- RV2 comparator strip made for the same lot number as the film. (Note: the lot number is printed on the lower part of the comparator strip)
3. Carry out the evaluation in a well-lit area illuminated with white light.
4. Place the GAFCHROMIC® XR-RV2 dosimetry film with the yellow side facing up and observe the areas where the film has been exposed. These are the areas where the film color has changed from yellow to a shade of green. The darkness of the exposed areas is an indication of the dose. The darker the film, the higher the dose.
5. Place the GAFCHROMIC® XR-RV2 comparator strip on the film with the colored chart facing you.
6. Move the comparator strip around on the film to the areas you would like to evaluate. Observe the film through the holes in the comparator strip and make an evaluation of the dose or dose range. If the film is lighter than the printed area surrounding the hole on the comparator strip, that is an indication that the dose to the film was less than the given dose for that step on the strip. If the film is darker than the printed area surrounding the hole on the comparator strip that is an indication that the dose to the film was greater than the given dose for that step on the strip. See an example in Figure 5

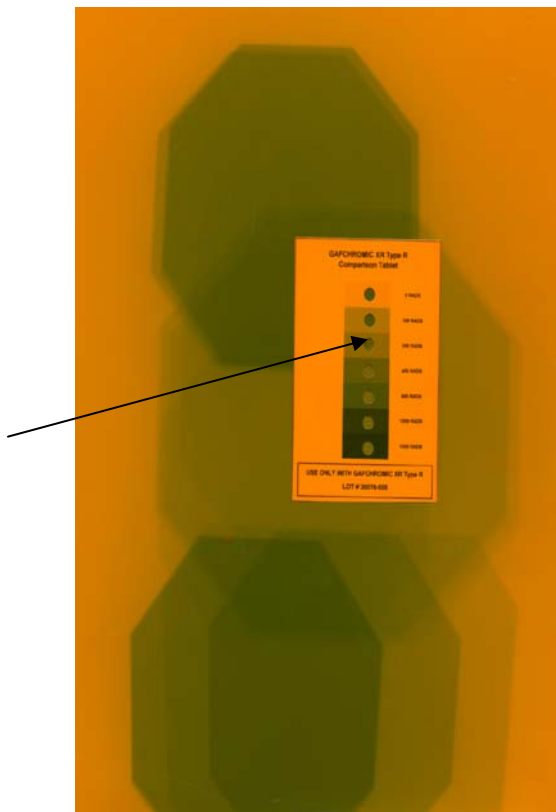


Figure 5a

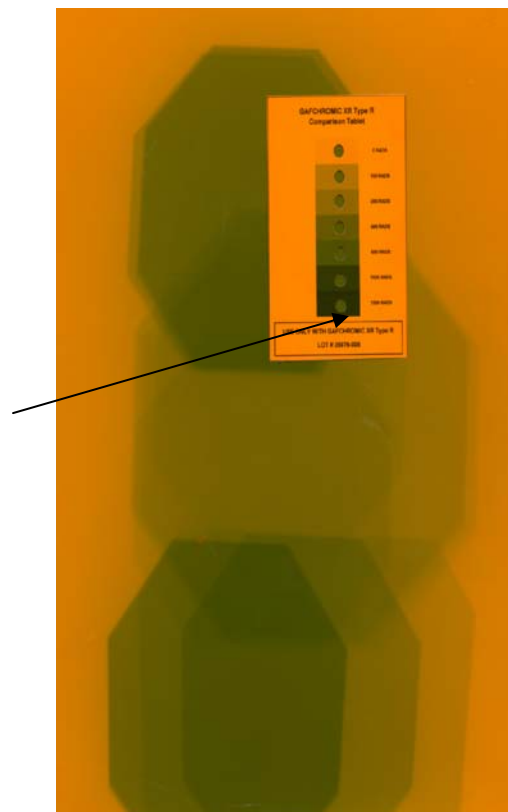
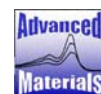


Figure 5b





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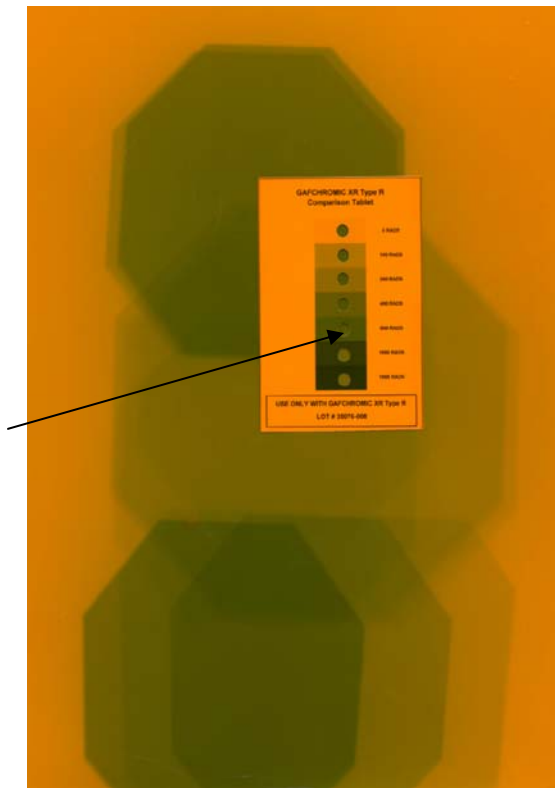


Figure 5c

Figure 5a: The area of the film under evaluation is darker than the tablet surrounding that area indicating that the dose in that area is greater than 200cGy. Figure 5b) the area is lighter than the tablet surrounding this area indicating dose is less than 1500cGy. Figure 5c) The area is the closest matches to the tablet surrounding that area indicating dose is around 600cGy.

V. REVIEW SCHEDULE

Every three years

VI. DEFINITIONS

VII. AFFECTED DEPARTMENTS

All operating departments are responsible for following specifications, procedures and other instructions to assure complete compliance to this procedure.

VIII. REVISIONS TRACKING

Revision 0 - This is a newly documented procedure.

