

Application GUIDE



Advice for reducing radiation dose to patient

◆ Place FPD near to patient, as much as possible.

- If X-ray focus to FPD become shorter, X-ray becomes easier to reach FPD. It makes possible to reduce radiation dose.
- If X-ray focus to FPD become shorter, X-ray becomes easier to reach FPD. It makes possible to adjust suitable X-ray condition for good image quality of fluorography and radiography.
- If patient is near to FPD, geometrical magnification becomes smaller. It makes possible to reduce blurring from half shade of X-ray focus, and improve image quality.



◆ Use fluoro record instead of acquisition.

- Use fluoro record function for recording the image during inflation of PTCA balloon. To reduce acquisition of radiography makes possible to reduce radiation dose for patient.
- ※ Radiation dose of fluorography is typically 10% to 13% of radiography.



or



◆ Reduce frame rate of fluorography or acquisition.

- If lower frame rate of fluorography or acquisition is selected, radiation dose for patient is much reduced.

[Example] Fluorography: 30pps ⇒ 15pps ⇒ 10pps ⇒ 7.5pps

Acquisition: 5fps ⇒ 3fps ⇒ 2fps

◆ Use appropriate mode of fluorography

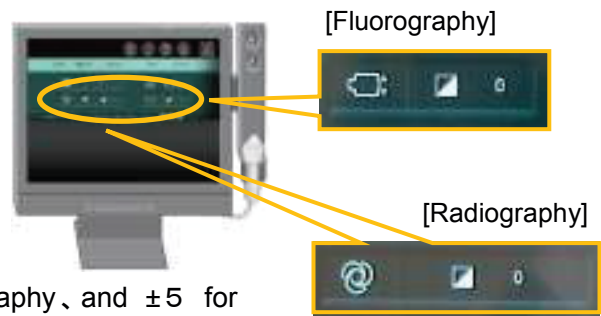
- Each fluoro mode (DUP) has independent frame rate and BH filter. Select appropriate DUP depends on the situation of examination. It makes possible to reduce patient radiation dose.

[Example]: 15pps/H > 15pps > 15pps/Low

※DUP setting is configurable. If needed, please contact our service engineer.

◆ **Change Density**

- If density parameter is changed, balanced X-ray condition is changed. If reduce density parameter, X-ray condition become lower and patient radiation dose is reduced.



※Density can be adjusted ± 3 for Fluorography, and ± 5 for Radiography.

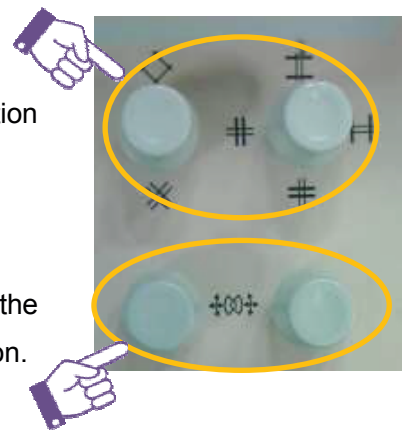
◆ **Be careful for table height.**

- Patient skin dose increases the closer to X-ray focus. Higher the table height, reduce patient skin dose.



◆ **Use collimator**

- Reduce unnecessary X-ray dose.
- Reduce scatter X-ray beam. Reducing scatter beam is effective to improve contrast of image
- ※To remove collimator, push collimator lever. This operation removes collimator and C-leaf.

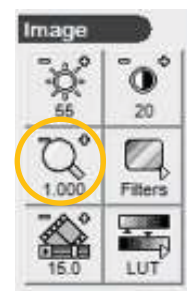


◆ **Use compensation filter**

- Compensation filter can reduce soft X-ray that is one of the causes of skin dose, so it is effective for patient dose reduction.
- In some cases, thickness of object becomes more uniformly, and it is effective to stabilize image quality.

◆ **Use digital zoom instead of smaller FOV.**

- Skin dose with digital zoom is less skin dose than smaller FOV.
- ※For this purpose, need to use Zoom button on ACQ monitor.
- 1.25 times digital zoom is similar size as 1 level smaller FOV.
- ※Too much magnification cause much X-ray condition by IBS control.



◆ **Reduce X-ray to same angle/same position.**

- In long intervention procedure, if physician uses same angle/view for long time, change C-arm angle a little bit, or use different view. With such way, it is effective to reduce the concentration of dose on same area.

◆ **Reduce unnecessary exposure(Fluorography / Radiography)**

- Be careful to the beep of 5-min fluoro-timer, or display of dose.
- Use "X-ray-off" button when before or after the case to reduce unexpected exposure.

