REDUCE RADIATION EXPOSURE
YOU CAN HAVE AN IMPACT

Interventionalists and their staff are exposed to high amounts of radiation due to the long, complicated procedures performed every day and their proximity to the radiation source.

EVERY DAY HEALTHCARE PROFESSIONALS ARE EXPOSED TO THE HARMFUL EFFECTS OF RADIATION

1. Interventional cardiologists have the highest radiation exposure of any medical professional2.

2. Your risk of cancer increases linearly with increasing doses3.

3. Your exposure today may not be felt for years to come. Radiation-induced cancers have a biological latency of more than 10 years4.

CAREER EXPOSURE (Average 20 year IC career5)

<table>
<thead>
<tr>
<th>EXPOSURE</th>
<th>HEAD</th>
<th>LOWER BODY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intensity</td>
<td>1,000 mSv</td>
<td>100 mSv</td>
</tr>
<tr>
<td>Equivalence*</td>
<td>50,000</td>
<td>5,000</td>
</tr>
<tr>
<td>Location</td>
<td>Chest x-rays</td>
<td>Chest x-rays</td>
</tr>
</tbody>
</table>

1,000 mSv correlated to a 5% risk of cancer*.

4. Location matters.

MEAN RADIATION DOSE (per procedure) BY POSITION (µSV)

<table>
<thead>
<tr>
<th>LEVEL</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEAD LEVEL</td>
<td>18.6</td>
<td>7.86</td>
<td>0.543</td>
<td>73.3</td>
</tr>
<tr>
<td>THYROID LEVEL</td>
<td>26.2</td>
<td>12.6</td>
<td>0.746</td>
<td>87.2</td>
</tr>
</tbody>
</table>

6-fold increase1

NEARLY 40% OF THE INCREASED EXPOSURE IS RELATED TO CARDIOVASCULAR IMAGING AND INTERVENTION

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UNDERSTAND THE IMPACT

IMPACT EXPOSURE WITH MI-DOSE

M
MONITOR EXPOSURE:
Wear a dosimeter in the cath lab at all times and leverage real-time dose monitoring when available.

I
IMAGING QUALITY:
Maximize the image quality and limit the exposure with appropriate table height, fluoroscopy rate (mA) and kV value.

D
DISTANCE FROM SOURCE:
Distance from the X-ray source should be maximized. As distance doubles, exposure decreases by a factor of 4.

O
OPTIMAL TECHNIQUE:
Monitor orientation and angulation and if possible avoid LAO cranial (highest scatter). Avoid unnecessary fluoroscopy and use virtual collimation, last image hold, and storage of X-ray fluoroscopy.

S
SHIELDING:
Use personal protective equipment (PPE) and fixed barriers to reduce scatter radiation.

E
EXPOSURE TO THE PATIENT:
Include factors such as age, gender, obesity, and previous exposure when choosing an imaging modality. Record key exposure metrics in patient records.*

*Recorded by most modern imaging equipment: Total air kerma at reference point (Ka,r), Air kerma-area product (KKA), Peak skin dose (PSD), Fluoroscopic time (FT)


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