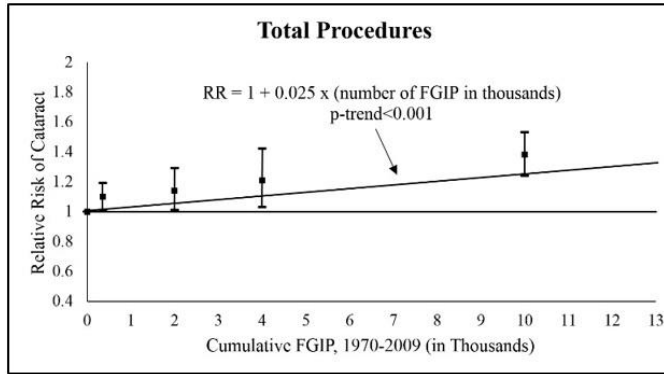
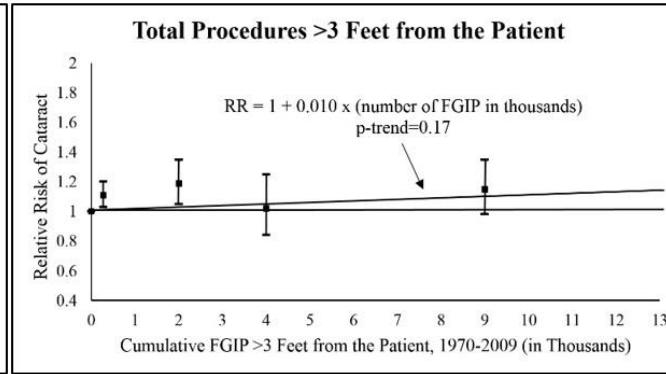


## SUPPLEMENTAL FIGURES

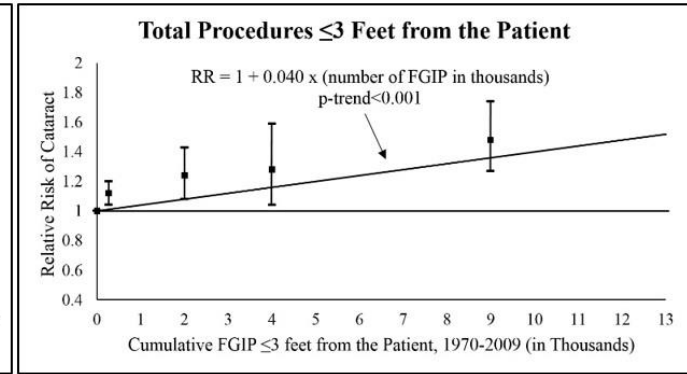
### History of cataract (A, B, C)



(A)

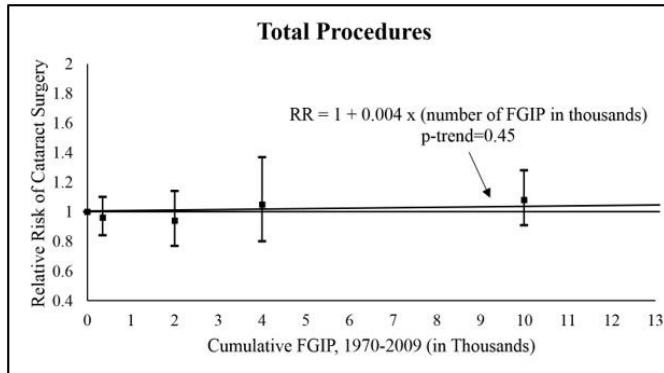


(B)

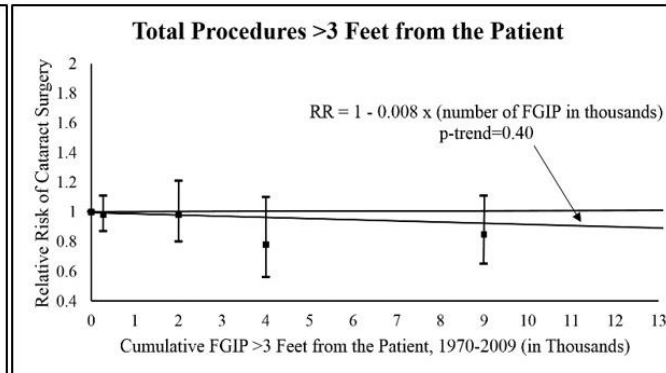


(C)

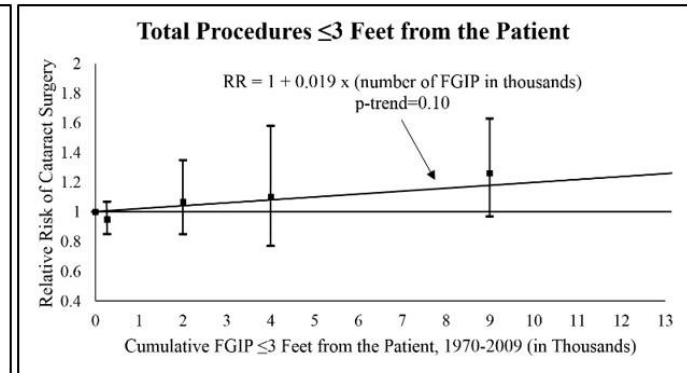
### History of cataract surgery (D, E, F)



(D)



(E)



(F)

### Supplemental Figure 1 FGIP work history and cataract and cataract surgery risk, United States Radiologic Technologists Study, 1994-2014, (N=35,751)

Shown are relative risks and 95% confidence intervals for cataract and cataract surgery risk (1994-2014) plotted at the mean number of procedures for each category. Cumulative number of fluoroscopically-guided interventional procedures (FGIP) from 1970-2009 was categorized as never worked with FGIP (referent), 0-<1,000, 1,000-<3,000, 3,000-<5,000, ≥5,000. The slope of the lines represents the excess relative risk (RR-1) per 1,000 FGIP. Relative risks and excess relative risks are adjusted for attained age and sex. (A) shows cumulative FGIP and cataract risk, (B) shows cumulative FGIP >3 feet from the patient and cataract risk, (C) shows cumulative FGIP ≤3 feet from the patient and cataract risk, (D) shows cumulative FGIP and cataract surgery risk, (E) shows cumulative FGIP >3 feet from the patient and cataract surgery risk, (F) shows cumulative FGIP ≤3 feet from the patient and cataract surgery risk

**SUPPLEMENTAL TABLES**

**Supplemental Table 1 Classifications used for FGIP categories**

<b>Category</b>	<b>Procedures</b>	<b>References</b>
<b>Low-dose (&lt;10,000 cGy·cm<sup>2</sup> DRL)<sup>c</sup></b>	Diagnostic electrophysiology (EP) studies <sup>a</sup>	Padovani 2008 <sup>1</sup>
	Electrophysiology (EP) ablations	Efstathopoulos 2006 <sup>2</sup> ; Padovani 2008 <sup>1</sup>
	Peripherally inserted central catheter (PICC) placement	Heilmaier 2015 <sup>3</sup> ; Heilmaier 2017 <sup>4</sup>
	Port placement	Fletcher 2002 <sup>5</sup> ; Dauer 2009 <sup>6</sup>
	Inferior vena cava (IVC) filter placement	Heilmaier 2015 <sup>3</sup>
	Endoscopic retrograde cholangiopancreatography (ERCP)	Buls 2002 <sup>7</sup>
	Orthopedic extremity nailing	Kirousis 2009 <sup>8</sup> ; Pillai 2004 <sup>9</sup>
<b>High-dose (≥10,000 cGy·cm<sup>2</sup> DRL)<sup>c</sup></b>	Diagnostic cardiovascular catheterizations <sup>a,b</sup>	Tsapaki 2003 <sup>10</sup> ; Neofotisou 2003 <sup>11</sup> ; Miller 2012 <sup>12</sup>
	Diagnostic neuroangiography <sup>a</sup>	Vano 2008 <sup>13</sup> ; Ihn 2016 <sup>14</sup>
	Percutaneous coronary interventions (PCI)	Balter 2008 <sup>15</sup> ; Miller 2012 <sup>12</sup>
	Pacemaker or intracardiac defibrillator implantations <sup>b</sup>	Tsapaki 2011 <sup>16</sup> ; Simantirakis 2013 <sup>17</sup>
	Embolizations	Miller 2003 <sup>18</sup> ; Miller 2009 <sup>19</sup>
	Endovascular therapeutic procedures	Kemerink 2002 <sup>20</sup> ; Chun 2014 <sup>21</sup>
	Dialysis interventions <sup>b</sup>	Vano 2009 <sup>22</sup> ; Heye 2012 <sup>23</sup>
	Peripheral vascular interventions	Vano 2008 <sup>13</sup>
	Transjugular intrahepatic portosystemic shunts (TIPS)	Miller 2003 <sup>18</sup> ; Miller 2009 <sup>19</sup>
	Aortic stent grafts	Kuhelj 2010 <sup>24</sup>
	Percutaneous nephrolithotomy (PCNL) <sup>b</sup>	Miller 2009 <sup>19</sup>
	Nephrostomy <sup>b</sup>	Vano 2008 <sup>13</sup> ; Miller 2009 <sup>19</sup>
	Biliary tract procedures <sup>b</sup>	Miller 2009 <sup>19</sup> ; Ruiz-Cruces 2016 <sup>25</sup>
	Vertebroplasty	Miller 2009 <sup>19</sup> ; Etard 2017 <sup>26</sup>

Abbreviations: FGIP- fluoroscopically-guided interventional procedures, cGy- centigray, DRL- dose reference limit

<sup>a</sup> “Diagnostic” in the procedure name indicates a diagnostic procedure. All other procedures examined were categorized as therapeutic.

<sup>b</sup> The procedure was reclassified from low-dose to high-dose as it was determined that the radiologic technologist would be positioned close to the patient during the procedure.

<sup>c</sup> DRL values do not represent a dose to any individual or a recognized demarcation between exposure levels

**Supplemental Table 2 Excess Relative Risk of cataract per 1,000 FGIP for exposure lags and exposure-time windows, United States Radiologic Technologists Study, 1994-2014, (N=35,751)**

Exposure lag (Univariate analyses)	Cumulative FGIP (1970-2009)			
	ERR <sup>a</sup>	95% CI	Deviance	p-value <sup>b</sup>
0-year lag	0.017	0.010-0.025	23,548	<0.001
5-year lag	0.020	0.012-0.029	23,545	<0.001
10-year lag	0.025	0.015-0.035	23,542	<0.001
<b>Exposure-time window (Multivariate analysis)</b>				
0-<5 years <sup>c</sup>	-0.066	-0.123-0.033	23,541	0.25
5-<10 years <sup>d</sup>	0.087	-0.062-0.075	23,539	>0.50
≥10 years <sup>e</sup>	0.029	0.016-0.041	23,563	< 0.001

Abbreviations: ERR-excess relative risk, CI-confidence interval

<sup>a</sup> Adjusted for attained age and sex in a person-year table categorized as 0, 500, 1000-10,000 [intervals of 1,000 procedures], 10,000+

<sup>b</sup> Based on the likelihood ratio test for the continuous term to calculate the ERR for FGIP work history excluded using each lag model

<sup>c</sup> Defined as the 0-5 years before the time at risk since last worked with FGIP

<sup>d</sup> Defined as the 5-10 years before the time at risk

<sup>e</sup> Defined as ≥10 years before the time at risk

**Supplemental Table 3 Excess Relative Risk (ERR) of cataract per 1,000 FGIP, United States Radiologic Technologists Study, 1994-2014,  
(N=35,751)**

Cumulative FGIP (1970-2009)	Total procedures		Procedures >3 feet from the patient		Procedures ≤3 feet from the patient	
	ERR <sup>a</sup>	95% CI <sup>l</sup>	ERR <sup>a,b</sup>	95% CI <sup>l</sup>	ERR <sup>a,c</sup>	95% CI <sup>l</sup>
<b>Any FGIP</b>	0.025	0.015-0.035	0.010	-0.0040-0.027	0.040	0.022-0.060
<b>Diagnostic FGIP<sup>d,h</sup></b>	0.031	0.013-0.051	0.020	-0.007-0.053	0.040	0.012-0.074
<b>Therapeutic FGIP<sup>e,i</sup></b>	0.019	0.003-0.036	0.004	-0.018-0.030	0.040	0.009-0.074
<b>Low-dose FGIP<sup>f,j</sup></b>	0.023	-0.009-0.057	0.025	-0.020-0.077	0.024	-0.037-0.092
<b>High-dose FGIP<sup>g,k</sup></b>	0.025	0.012-0.040	0.006	-0.013-0.029	0.045	0.021-0.071

Abbreviations: FGIP- fluoroscopically-guided interventional procedures, ERR-excess relative risk, CI-confidence interval

<sup>a</sup> Adjusted for attained age and sex in a person-year table categorized as 0, 500, 1000-10,000 [intervals of 1,000 procedures], 10,000+

<sup>b</sup> Adjusted for cumulative procedures ≤3 feet

<sup>c</sup> Adjusted for cumulative procedures >3 feet

<sup>d</sup> Adjusted for cumulative therapeutic FGIP work history

<sup>e</sup> Adjusted for cumulative diagnostic FGIP work history

<sup>f</sup> Adjusted for cumulative high-dose FGIP work history

<sup>g</sup> Adjusted for cumulative low-dose FGIP work history

<sup>h</sup> Diagnostic FGIP includes electrophysiology diagnostic studies, diagnostic cardiovascular catheterizations, and diagnostic neuroangiography

<sup>i</sup> Therapeutic FGIP includes electrophysiology ablations, peripherally inserted central catheter placement, port placement, inferior vena cava filter placement, endoscopic retrograde cholangiopancreatography, orthopedic extremity nailing, percutaneous coronary interventions, pacemaker or intracardiac defibrillator implantations, embolizations, endovascular therapeutic procedures, dialysis interventions, peripheral vascular interventions, transjugular intrahepatic portosystemic shunts, aortic stent grafts, percutaneous nephrolithotomy, nephrostomy, biliary tract procedures, and vertebroplasty

<sup>j</sup> Low-dose FGIP includes electrophysiology diagnostic studies, electrophysiology ablations, peripherally inserted central catheter placement, port placement, inferior vena cava filter placement, endoscopic retrograde cholangiopancreatography, and orthopedic extremity nailing

<sup>k</sup> High-dose FGIP includes diagnostic cardiovascular catheterizations, diagnostic neuroangiography, percutaneous coronary interventions, pacemaker or intracardiac defibrillator implantations, embolizations, endovascular therapeutic procedures, dialysis interventions, peripheral vascular interventions, transjugular intrahepatic portosystemic shunts, aortic stent grafts, percutaneous nephrolithotomy, nephrostomy, biliary tract procedures, and vertebroplasty

<sup>l</sup> likelihood-based confidence bounds

**Supplemental Table 4 FGIP work history and cataract and cataract surgery risk, stratified by sex, United States Radiologic Technologists Study, 1994-2014, (N=35,751)**

Cumulative FGIP (1970-2009)	Total procedures				Procedures >3 feet from the patient				Procedures ≤3 feet from the patient			
	Cases	PYR	RR <sup>a</sup>	95% CI	Cases	PYR	RR <sup>a,b</sup>	95% CI	Cases	PYR	RR <sup>a,c</sup>	95% CI
<b>Cataract</b>												
<b>Women</b>												
Never worked with FGIP	6,738	379,615	ref	ref	6,738	379,615	ref	ref	6,738	379,615	ref	ref
0-<3,000	656	50,154	1.14	1.05-1.24	831	61,089	1.16	1.07-1.25	832	61,357	1.17	1.08-1.26
≥3,000	370	23,637	1.42	1.27-1.57	195	12,702	1.17	0.99-1.37	194	12,434	1.38	1.18-1.63
p-trend <sup>d</sup>				<0.001				0.03				<0.001
<b>Men</b>												
Never worked with FGIP	1,243	70,117	ref	ref	1,243	70,117	ref	ref	1,243	70,117	ref	ref
0-<3,000	202	13,489	1.10	0.95-1.28	267	17,171	1.14	0.99-1.31	282	19,212	1.11	0.97-1.28
≥3,000	163	10,629	1.27	1.08-1.50	98	6,948	1.02	0.81-1.29	83	4,907	1.52	1.17-1.96
p-trend <sup>d</sup>				0.02				>0.50				0.02
<b>Cataract Surgery</b>												
<b>Women</b>												
Never worked with FGIP	3,111	398,786	ref	ref	3,111	398,786	ref	ref	3,111	398,786	ref	ref
0-<3,000	228	52,169	0.94	0.82-1.08	292	63,619	0.98	0.86-1.12	292	63,892	0.97	0.86-1.11
≥3,000	128	24,790	1.17	0.98-1.40	64	13,340	0.94	0.72-1.24	64	13,066	1.12	0.85-1.48
p-trend <sup>d</sup>				0.16				>0.50				0.25
<b>Men</b>												
Never worked with FGIP	652	73,312	ref	ref	652	73,312	ref	ref	652	73,312	ref	ref
0-<3,000	96	14,035	1.02	0.82-1.26	124	17,893	1.02	0.83-1.25	124	19,961	0.97	0.80-1.19
≥3,000	63	11,119	0.95	0.73-1.23	35	7,262	0.67	0.46-0.98	35	5,144	1.33	0.91-1.96
p-trend <sup>d</sup>				>0.50				0.21				0.15

<sup>a</sup> Adjusted for attained age with stratification of sex and FGIP work history in a person-year table categorized as 0, 500, 1000-10,000 [intervals of 1,000 procedures], 10,000+

<sup>b</sup> Adjusted for cumulative procedures ≤3 feet

<sup>c</sup> Adjusted for cumulative procedures >3 feet

<sup>d</sup> Based on the likelihood ratio test for the continuous term

**Supplemental Table 5 FGIP work history and cataract surgery risk, United States Radiologic Technologists Study, 1994-2014, (N=35,751)**

Cumulative FGIP (1970-2009)	Total procedures				Procedures >3 feet from the patient				Procedures ≤3 feet from the patient			
	Cases	PYR	RR <sup>a</sup>	95% CI	Cases	PYR	RR <sup>a,b</sup>	95% CI	Cases	PYR	RR <sup>a,c</sup>	95% CI
<b>Any FGIP</b>												
Never worked with FGIP	3,763	472,090	ref	ref	3,763	472,090	ref	ref	3,763	472,090	ref	ref
0-<1,000	223	43,035	0.96	0.84-1.10	316	61,517	0.98	0.87-1.11	336	67,421	0.95	0.85-1.07
1,000-<3,000	101	23,168	0.94	0.77-1.14	100	19,993	0.98	0.80-1.20	80	16,430	1.07	0.85-1.35
3,000-<5,000	56	11,135	1.05	0.80-1.37	36	7,944	0.78	0.55-1.09	32	6,851	1.10	0.77-1.58
≥5,000	135	24,773	1.08	0.91-1.28	63	12,657	0.85	0.65-1.11	67	11,409	1.26	0.97-1.63
p-trend <sup>l</sup>				0.45				0.40				0.10
<b>Diagnostic FGIP<sup>d,h</sup></b>												
Never worked with FGIP	3,763	472,090	ref	ref	3,763	472,090	ref	ref	3,763	472,090	ref	ref
0-<1,000	350	69,196	0.99	0.88-1.11	415	81,625	0.99	0.88-1.11	419	82,757	0.99	0.89-1.11
1,000-<3,000	69	16,350	0.88	0.69-1.13	60	12,533	0.83	0.63-1.09	34	10,600	0.76	0.53-1.08
3,000-<5,000	32	6,119	1.09	0.76-1.56	17	3,715	0.85	0.52-1.41	24	3,763	1.35	0.88-2.06
≥5,000	64	10,445	1.28	0.98-1.68	23	4,238	0.91	0.58-1.43	38	4,990	1.57	1.10-2.23
p-trend <sup>l</sup>				0.11				>0.50				0.04
<b>Therapeutic FGIP<sup>e,i</sup></b>												
Never worked with FGIP	3,763	472,090	ref	ref	3,763	472,090	ref	ref	3,763	472,090	ref	ref
0-<1,000	295	59,355	0.93	0.82-1.05	370	72,901	0.97	0.86-1.09	395	79,744	0.94	0.85-1.06
1,000-<3,000	91	19,219	1.02	0.82-1.26	80	16,171	0.99	0.78-1.25	64	12,529	1.12	0.86-1.47
3,000-<5,000	53	9,421	1.10	0.83-1.45	36	6,143	0.95	0.67-1.34	26	4,722	1.31	0.87-1.96
≥5,000	76	14,117	0.96	0.75-1.23	29	6,896	0.68	0.46-1.01	30	5,117	1.08	0.73-1.58
p-trend <sup>l</sup>				0.37				>0.50				>0.50
<b>Low-dose FGIP<sup>f,j</sup></b>												
Never worked with FGIP	3,763	472,090	ref	ref	3,763	472,090	ref	ref	3,763	472,090	ref	ref
0-<1,000	357	74,554	0.94	0.83-1.05	423	84,797	0.98	0.88-1.10	456	90,270	0.97	0.87-1.08
1,000-<3,000	105	17,332	1.14	0.92-1.40	68	12,231	0.96	0.75-1.25	43	8,395	0.98	0.71-1.35
3,000-<5,000	33	5,657	0.97	0.68-1.40	11	3,086	0.57	0.31-1.04	12	2,080	1.03	0.57-1.85
≥5,000	20	4,569	0.66	0.41-1.06	13	1,998	0.96	0.54-1.70	4	1,367	0.42	0.15-1.13
p-trend <sup>l</sup>				0.16				>0.50				>0.50
<b>High-dose FGIP<sup>g,k</sup></b>												
Never worked with FGIP	3,763	472,090	ref	ref	3,763	472,090	ref	ref	3,763	472,090	ref	ref
0-<1,000	278	54,317	0.98	0.86-1.11	359	70,440	0.98	0.87-1.10	372	74,086	0.97	0.87-1.09
1,000-<3,000	100	20,787	1.03	0.84-1.26	87	17,032	0.96	0.76-1.21	59	13,958	1.01	0.77-1.32
3,000-<5,000	41	9,203	0.99	0.72-1.35	27	5,850	0.78	0.52-1.16	28	5,452	1.22	0.83-1.80
≥5,000	96	17,905	1.14	0.91-1.43	42	8,789	0.83	0.58-1.17	56	8,616	1.46	1.09-1.95
p-trend <sup>l</sup>				0.15				>0.50				0.03

Abbreviations: FGIP – fluoroscopically-guided interventional procedures, PYR – person-years at risk, RR – relative risk, CI – confidence interval, ref – referent group

<sup>a</sup> Adjusted for attained age and sex with stratification of FGIP work history in a person-year table categorized as 0, 500, 1000-10,000 [intervals of 1,000 procedures], 10,000+

<sup>b</sup> Adjusted for cumulative procedures ≤3 feet

<sup>c</sup> Adjusted for cumulative procedures >3 feet

<sup>d</sup> Adjusted for cumulative therapeutic FGIP work history

<sup>e</sup>Adjusted for cumulative diagnostic FGIP work history

<sup>f</sup>Adjusted for cumulative high-dose FGIP work history

<sup>g</sup>Adjusted for cumulative low-dose FGIP work history

<sup>h</sup>Diagnostic FGIP includes electrophysiology diagnostic studies, diagnostic cardiovascular catheterizations, and diagnostic neuroangiography

<sup>i</sup>Therapeutic FGIP includes electrophysiology ablations, peripherally inserted central catheter placement, port placement, inferior vena cava filter placement, endoscopic retrograde cholangiopancreatography, orthopedic extremity nailing, percutaneous coronary interventions, pacemaker or intracardiac defibrillator implantations, embolizations, endovascular therapeutic procedures, dialysis interventions, peripheral vascular interventions, transjugular intrahepatic portosystemic shunts, aortic stent grafts, percutaneous nephrolithotomy, nephrostomy, biliary tract procedures, and vertebroplasty

<sup>j</sup>Low-dose FGIP includes electrophysiology diagnostic studies, electrophysiology ablations, peripherally inserted central catheter placement, port placement, inferior vena cava filter placement, endoscopic retrograde cholangiopancreatography, and orthopedic extremity nailing

<sup>k</sup>High-dose FGIP includes diagnostic cardiovascular catheterizations, diagnostic neuroangiography, percutaneous coronary interventions, pacemaker or intracardiac defibrillator implantations, embolizations, endovascular therapeutic procedures, dialysis interventions, peripheral vascular interventions, transjugular intrahepatic portosystemic shunts, aortic stent grafts, percutaneous nephrolithotomy, nephrostomy, biliary tract procedures, and vertebroplasty

<sup>l</sup>Based on the likelihood ratio test for the continuous term

**Supplemental Table 6 Excess Relative Risk (ERR) of cataract surgery per 1,000 FGIP, United States Radiologic Technologists Study, 1994-2014, (N=35,751)**

Cumulative FGIP (1970-2009)	Total procedures		Procedures >3 feet from the patient		Procedures ≤3 feet from the patient	
	ERR <sup>a</sup>	95% CI <sup>l</sup>	ERR <sup>a,b</sup>	95% CI <sup>l</sup>	ERR <sup>a,c</sup>	95% CI <sup>l</sup>
<b>Any FGIP</b>	0.004	-0.007-0.018	-0.008	-0.025-0.012	0.019	-0.002-0.046
<b>Diagnostic FGIP<sup>d,h</sup></b>	0.020	-0.003-0.047	-0.004	-0.037-0.038	0.041	0.002-0.090
<b>Therapeutic FGIP<sup>e,i</sup></b>	-0.009	-0.025-0.012	-0.009	-0.031-0.021	-0.007	-0.047-0.040
<b>Low-dose FGIP<sup>f,j</sup></b>	-0.024	-0.041-0.020	0.006	-0.003-0.02	-0.036	-0.036-0.045
<b>High-dose FGIP<sup>g,k</sup></b>	0.013	0.012-0.020	-0.011	-0.019-0.005	0.027	0.025-0.029

Abbreviations: FGIP- fluoroscopically-guided interventional procedures, ERR-excess relative risk, CI-confidence interval

<sup>a</sup> Adjusted for attained age and sex in a person-year table categorized as 0, 500, 1000-10,000 [intervals of 1,000 procedures], 10,000+

<sup>b</sup> Adjusted for cumulative procedures ≤3 feet

<sup>c</sup> Adjusted for cumulative procedures >3 feet

<sup>d</sup> Adjusted for cumulative therapeutic FGIP work history

<sup>e</sup> Adjusted for cumulative diagnostic FGIP work history

<sup>f</sup> Adjusted for cumulative high-dose FGIP work history

<sup>g</sup> Adjusted for cumulative low-dose FGIP work history

<sup>h</sup> Diagnostic FGIP includes electrophysiology diagnostic studies, diagnostic cardiovascular catheterizations, and diagnostic neuroangiography

<sup>i</sup> Therapeutic FGIP includes electrophysiology ablations, peripherally inserted central catheter placement, port placement, inferior vena cava filter placement, endoscopic retrograde cholangiopancreatography, orthopedic extremity nailing, percutaneous coronary interventions, pacemaker or intracardiac defibrillator implantations, embolizations, endovascular therapeutic procedures, dialysis interventions, peripheral vascular interventions, transjugular intrahepatic portosystemic shunts, aortic stent grafts, percutaneous nephrolithotomy, nephrostomy, biliary tract procedures, and vertebroplasty

<sup>j</sup> Low-dose FGIP includes electrophysiology diagnostic studies, electrophysiology ablations, peripherally inserted central catheter placement, port placement, inferior vena cava filter placement, endoscopic retrograde cholangiopancreatography, and orthopedic extremity nailing

<sup>k</sup> High-dose FGIP includes diagnostic cardiovascular catheterizations, diagnostic neuroangiography, percutaneous coronary interventions, pacemaker or intracardiac defibrillator implantations, embolizations, endovascular therapeutic procedures, dialysis interventions, peripheral vascular interventions, transjugular intrahepatic portosystemic shunts, aortic stent grafts, percutaneous nephrolithotomy, nephrostomy, biliary tract procedures, and vertebroplasty

<sup>l</sup> likelihood-based confidence bounds



**Supplementary Table 7 Epidemiologic studies examining cataract risk in medical workers exposed to low-dose ionizing radiation from FGIP<sup>a</sup>**

First Author, Year, Study Location	Design	Study Population	Baseline participant age (mean±SD)	Exposure Assessment	Outcome Ascertainment	Effect Estimate (95% CI)
<b>Velazquez-Kronen, 2018, USA (current study)<sup>b</sup></b>	Retrospective cohort	35,751 radiologic technologists (6,262 ever FGIP and 29,489 never FGIP)	Ever FGIP: 44±6 Never FGIP: 53±8	Self-reported	Self-reported	RR (ever FGIP/never FGIP): 1.18 (1.11-1.25)  RR (5,000+ FGIP/never FGIP): 1.38 (1.24-1.53)
<b>Vano<sup>27</sup>, 2010, Columbia, Uruguay<sup>c</sup></b>	Cross-sectional	58 IC, 58 support staff, and 93 unexposed non-medical workers	IC:46±8 Support staff: 38±7 Unexposed: 41±10	Self-reported	Slit-lamp examination using a modified Merriam-Focht scoring system	RR: IC: 3.20 (1.70-6.10) Support staff: 1.70 (0.80-3.70)
<b>Jacob<sup>28</sup>, 2013, France<sup>c</sup></b>	Cross-sectional	106 IC and 99 unexposed non-medical workers	IC: 51±7 Unexposed: 50±7	Self-reported	Slit-lamp examination using LOCS-III grading	OR: 3.85 (1.30-11.40)
<b>Andreassi<sup>29</sup>, 2016, Italy<sup>b</sup></b>	Cross-sectional	466 exposed medical workers and 280 unexposed professionals	Exposed: 44±9 Unexposed: 43±7	Self-reported	Self-reported	OR: 6.30 (1.50-27.60)
<b>Karatasakis<sup>30</sup>, 2017, USA<sup>d</sup></b>	Cross-sectional	99 exposed and 18 unexposed ICs and support staff	Exposed: 49±11 Unexposed: 39±12	Self-reported	Slit-lamp examination a modified Merriam-Focht scoring system	OR: 6.07 (1.38-43.45)

Abbreviations: FGIP- fluoroscopically-guided interventional procedures, IC – interventional cardiologists, cath-lab – catheterization laboratory, RR-relative risk, OR-odds ratio, CI – confidence interval

<sup>a</sup> Restricted to studies with sample size ≥100

<sup>b</sup> Risk estimate for any cataract

<sup>c</sup> Risk estimate for posterior subcapsular cataract

<sup>d</sup> Risk estimate for posterior subcapsular/cortical cataract combined

**Supplemental Table 8 Cumulative lens absorbed dose and badge dose by cumulative FGIP performed for technologists who ever worked with FGIP, United States Radiologic Technologists Study, 1980-1997, (n=6,626)**

	Mean cumulative lens dose (mGy)	Mean cumulative badge dose (mGy)
<b>Total times assisted with any FGIP</b>		
0-<1,000	46.21	36.08
1,000-<3,000	48.50	42.48
3,000-<5,000	56.14	47.91
5,000+	61.19	55.79

Abbreviations: FGIP – fluoroscopically-guided interventional procedures, mGy – milligray

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