

Adult Computed Tomography (CT) RISK for Consent

Risk of allergic reaction with nonionic contrast dye:

1 in 150 (100-200)

naus/vom, hives, flushing, pain, urticaria, vasovagal, bronchospasm, tachycardia

1 in 2500 (2500-7000)

anaphylaxis, sev bronchospasm, laryngeal edema, seizure, hypotension, pulm edema

1 in 100,000 death

(best estimate based on multiple references – see ref sheet)

Kidney damage:

1 in 100 (0-2)

kidney failure (dialysis) or creatinine elevation > 3mg/dL; (2/3 fatal)

Caveat: This risk is likely much lower for young, healthy people; possibly higher for others (Mitchell, *Clin J Am Soc Nephrol*. 2009; 5(1):4-9)

Radiation - (Estimated number of patients exposed to a CT that would result in 1 Radiation-Induced Cancer, based on CT type and age at exposure)

Anatomic Area/ CT Type	Age, 20 y/o		Age, 40 y/o		Age, 60 y/o	
	Female	Male	Female	Male	Female	Male
	Head	4360	7350	8100	>10000	>10000
Neck	2390	4020	4430	6058	6700	8030
Chest	390	1040	720	1566	1090	2080
Chest, with contrast	380	1020	720	1538	1070	2040
Chest, suspected PE	330	880	620	1333	930	1770
Coronary CT angiogram	150	390	270	595	420	790
Abd/pelvis	500	660	930	1002	1400	1330
Abd/pelvis with contrast	470	620	870	942	1320	1250
Suspected aneurysm/dissection	320	420	590	636	890	840

*Circle the number most relevant (Smith-Bindman, *Arch Intern Med* 2009;169:2078)

False Positives (a finding that could lead to unnecessary further care):

1 in 4

(best estimate based on multiple references – see ref sheet)

Computed Tomography (CT) RISK for Consent

Pediatrics

Risk of allergic reaction with nonionic contrast dye

1 in 150 (100-200)

naus/vom, hives, flushing, pain, urticaria, vasovagal, bronchospasm, tachycardia

1 in 2500 (2500-7000)

anaphylaxis, sev bronchospasm, laryngeal edema, seizure, hypotension, pulm edema

(best estimate based on multiple references – see ref sheet)

Lifetime risk, death from cancer, secondary to CT exposure

(estimates based on ideal, not observed, radiation exposure during CT)

-Head CT

Age 0: 1 in 1400

Age 5: 1 in 2500

Age 15: 1 in 7000

-Abdomen/pelvis CT

Age 0: 1 in 700

Age 5: 1 in 1100

Age 15: 1 in 1400

Brenner DJ and Hall EJ. *N Engl J Med* 2007;357:2277