

# Time/Dose Effects in Acute Radiation Syndrome - Acute Clinical Effects of Single-Dose Exposure of Whole-Body Irradiation

## Symptoms/Signs for Dose Range 15.0 to 30.0 Gy in Free Air

Symptoms/Signs	Hours						Days							Weeks						
	4	8	12	16	20	24	2	3	4	5	6	7	2	3	4	5	6	7		
Nausea													100%							
Vomiting (retching)													100%							
Anorexia													100%							
Diarrhea (cramps)													100%							
Fatigue													100%							
Weakness													100%							
Hypotension													100%							
Dizziness													100%							
Disorientation													100%							
Bleeding													(a) 100%							
Fever							45-50%						(b) 100%							
Infection													(c) 100%							
Ulceration													100%							
Fluid loss/electrolyte imbalance													(d) 100%							
Headache													100%							
Fainting													80%							
Prostration													80%							
Death													(e) 100%							

  

<b>Severity Scale</b>	mild to moderate	moderate to severe	Colors used to improve visualization only.
unspecified or mild	moderate	severe	

  

**Management and Treatment**

**Performance:**

- DT:PD 1 to 2 hours; CI 4 hours to 3 days; PD 3 to 4 days; CI 4 days to death.
- UT:PD 1 to 7 hours; CI 7 to 25 hours; PD 25 hours to 4.5 days; CI 4.5 days to death.

**Hospitalization Percentage/Duration**

- 3 to 4 days medical care for 100%.
- 100% deaths at 5 to 10 days.

**Therapy**

- Maintenance of electrolyte balance, supportive treatment.

  

(a) Platelet count drops to zero.	CI = Combat Ineffective (less than 25% performance)
(b) Granulocyte count drops to zero.	PD = Performance Degraded (25-75% performance)
(c) Lymphocyte count drops to zero.	DT = Demanding Task
(d) Severe intestinal damage.	UT = Undemanding Task
(e) Renal failure.	

Adapted from NATO Handbook on the Medical Aspects of NBC Defensive Operations AMedP-6(B), Chapter 6, General Medical Effects of Nuclear Weapons: Diagnosis, Treatment, and Prognosis, 1 February, 1996.