Psychological stress is proposed to have a direct effect on personal, family, and community disruption, as well as perceived uncontrollability over one’s life and distrust of government. These disruptive influences, in turn, cause family dysfunction, poor social support, other traumatic stresses, economic problems, and accident-proneness. Psychological stress also is proposed to have a direct influence on concerns about the effects of radiation on health, resulting in sensitivity to physical symptoms and complaints. Both family and social consequences of stress and symptom sensitivity may lead to psychological dysfunction, including post-traumatic stress disorder, anxiety, depression, and maladaptive coping strategies. These manifestations of psychological dysfunction can result in increased alcohol and cigarette use, with a direct effect on clinical symptoms such as elevated blood pressure and other cardiovascular problems. Clinical symptoms, in turn, have a direct effect on physical disease, including stress-related disorders and exacerbation of chronic diseases.

Suggested assessment tools and criteria for monitoring psychosocial and gen-
eral health effects in large populations after large-scale disasters are described. The use of short, reliable psychological measures that assess a broad spectrum of dysfunction is imperative in screening large numbers of people. Specific areas to evaluate in which the stress effects are manifested include post-traumatic stress disorder, somatic symptoms and complaints, and mental disorder diagnosis and treatment. Indices of family disruption can be obtained through information on the intactness of the family unit and possible spouse and child abuse. Lifestyle indices of stress and community disruption include presence of alcohol and other substance use, cigarette smoking, accidents, and suicides. Health monitoring also consists of the collection of morbidity and mortality data from hospital and clinic records, with a particular interest in cardiovascular and gastrointestinal disorders as manifestations of stress. Data on relocation, unemployment, personal and property crime victimization, and distrust of the government assess the impact of a disaster on the social structure of the community. Through examination of a disaster with foci ranging from personal to societal levels, a more comprehensive view of mid- and long-term effects can be obtained.

Conceptual model of radiation exposure effects on psychological and physical health

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**Irradiation Source**

- Whole-body and partial exposure >0.5-1Gy (usually professional workers)
- Whole-body and partial exposure >0.5-1Gy (usually general population)

**Stress Exposure**

- Radiation concerns
- Sensitivity to physical symptoms and complaints

**Physical Dysfunction:** acute radiation syndrome (gastrointestinal, vasomotor, neurological signs)

**Psychological Dysfunction:**
- PTSD
- Anxiety
- Depression
- Maladaptive coping strategies

**Clinical Symptoms:**
- Hematology
- Cardiovascular system
- Neurological effects
- Increased alcohol and cigarette use

**Physical Diseases:**
- (including stress-related disorders)
- Exacerbation of chronic diseases

**Clinical Symptoms:**
- Blood pressure and other cardiovascular effects

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Prehospital and Disaster Medicine

Vol.11, No.2

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