Exhibit J

Textbook of Military Medicine

MEDICAL ASPECTS of CHEMICAL and BIOLOGICAL WARFARE

33. Botulinum Toxins
34. Trichothecene Mycotoxins
35. Medical Challenges in Chemical and Biological Defense for the 21st Century

Chapter 8

LONGTERM HEALTH EFFECTS OF NERVE AGENTS AND MUSTARD

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INTRODUCTION

Chemical warfare agents were used extensively in World War I (the United States had approximately 70,000 chemical casualties[1]) and have been employed or allegedly employed in a dozen or so conflicts since.[2] The most recent large-scale use of these weapons was by Iraq in its war with Iran in the late 1980s. During that conflict, Iraq used nerve agents and

symptomatic exposures to mustard over a period of years as a causal factor in an increased incidence of airway cancer. The association between a single exposure to mustard and airway cancer is not as well established. The association between one-time mustard exposure and other chronic airway problems, such as chronic bronchitis, which is based on World War I data, seems more clearly established. In some cases, the long-term damage was probably a continuation of the original insult resulting from insufficient therapy in the preantibiotic era.

Several eye diseases, such as chronic conjunctivitis, appear after an acute, usually severe, insult to the eye. In particular, delayed keratitis has appeared more than 25 years after the acute, severe lesion. Similarly, skin scarring, pigment changes, and even cancer have either followed the initial wound as a continuation of the process (scarring) or later appeared at the site of the lesion.

The production of nonairway cancer by mustard has been demonstrated in animals, but scant evidence exists to implicate mustard as a causative factor in nonairway cancer in humans.

Mustard causes chromosomal breakage and induces sister chromatid exchanges in man and has been classed as a mutagen. No data that implicate mustard as a reproductive toxin in man seem to be available, despite the many thousands of people exposed to mustard in the past 80 years.

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Chapter 11

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INTRODUCTION

As defined in *The American Heritage Dictionary of the English Language,* to "incapacitate" means "to deprive of strength or ability." The word is not synonymous with paralysis, confusion, or any other specific affliction. It is a general term, implying neither global inability to act nor any particular type of disability. For example, blurred near vision might be incapacitating for a computer programmer or air traffic controller but probably

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