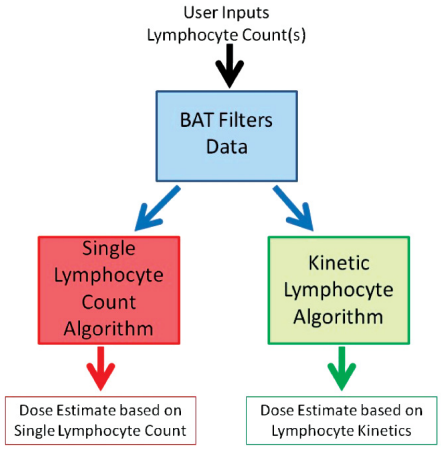
Latest algorithms enhance radiation dose prediction

BAT version 1.06 contains the latest AFRRI-developed, radiation dose-predicting algorithms:

- Single lymphocyte count
- Lymphocyte depletion rate
- Time from exposure to time of onset of emesis

The algorithms consider the influence of the normal range of lymphocyte counts. They are based on a combination of data sets from human radiation exposure incidents and collaboration with G.H. Anno, Veridian Systems Division; R.E. Goans, MJW Corporation and REAC/TS; and A.K. Guskova, Russian Academy of Medical Sciences. Dose assessment tools based on the BAT algorithms are available at the Radiation Event Medical Management Web site at www.remm.nlm.gov/ars_wbd.htm, supported by Health and Human Services and the National Library of Medicine.



Get BAT

Request BAT online
AFRRI Web site
www.usuhs.edu/afrri/outreach/request.htm

Receive BAT at MEIR Course
AFRRI Medical Effects of Ionizing Radiation Course
www.usuhs.edu/afrri/outreach/meir/meir.htm

Find other resources

Medical/operational guides at
www.usuhs.edu/afrri/outreach/guidance.htm

Medical Management of Radiological Casualties Handbook

Emergency Radiation Medicine Response, AFRRI Pocket Guide

Biodosimetry tools at
www.usuhs.edu/afrri/outreach/biodostools.htm

First-responders Radiological Assessment Triage Software

AFRRI Adult/Pediatric Field Medical Record

AFRRI Biodosimetry Worksheet

Radiocesium RDD Patient Initial Contact Worksheet

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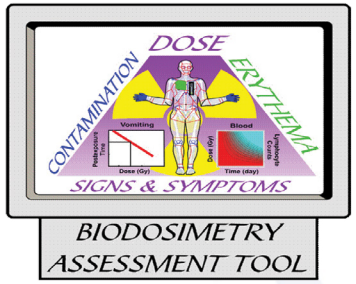
Cleared for public release; distribution unlimited
April 2013

Uniformed Services University of the Health Sciences
Armed Forces Radiobiology Research Institute

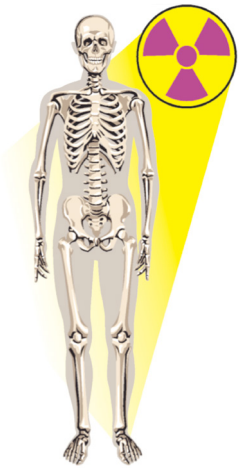
Biodosimetry Assessment Tool

Version 1.06 for health-care providers and emergency responders managing radiation casualties



Record radiation exposure
Estimate dose
Archive data
Deliver diagnostic information

CHALLENGE



Sound medical treatment decisions for individuals who may have been exposed to radiation require the collection of relevant data. BAT provides one option for this purpose to assist first responders and medical professionals on the scene of a radiological or nuclear incident, which may involve mass casualties.

The appropriate use of medical resources will depend on timely, accurate dose information so as to differentiate between the concerned public (those who mistakenly believe they were exposed) and exposed individuals.

The most effective approach will allow for the recording, accessing, editing, and archiving of data using multiple bioassays and an integrated approach.

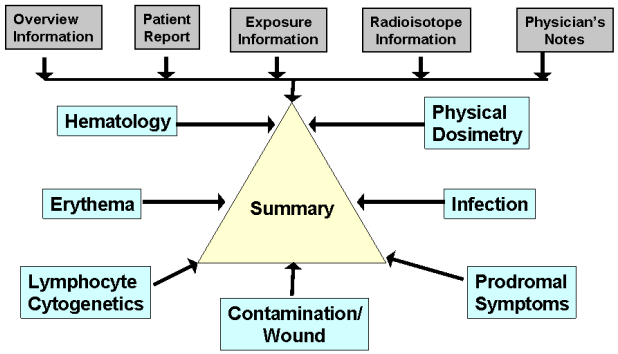
The BAT program is NOT a substitute for treatment decisions by physicians and other trained health-care professionals.

SOLUTION

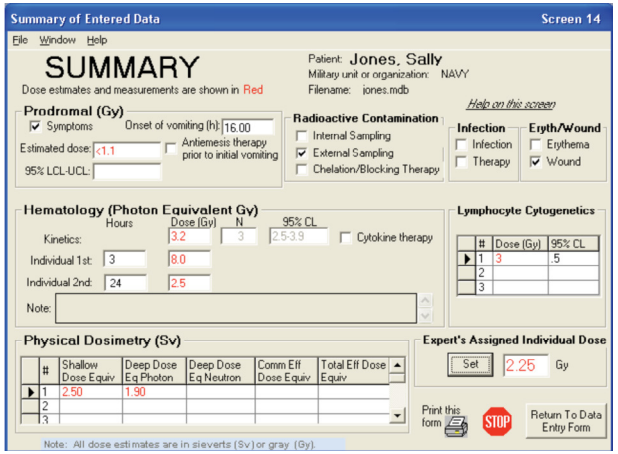
The BAT software, intended for use by licensed professionals, delivers diagnostic information to health-care providers managing radiation casualties.

Scientific explanations, background information, and program assistance are provided by the following features:

- Body Section Selector: Pick the exact location of the patient's dosimeter, external contamination, and erythema or wounds.
- Calendar: Select the date, month, year.
- Dosimetry Information: Select from among the U.S. military's 16 most common dosimeters with range and sensitivity facts.
- Temperature Entry: Either Fahrenheit or Celsius.
- Context Sensitive Help menu: Access resources from the top of every screen.



BENEFITS



- Displays diagnostic and therapeutic information and an expert's assigned individual dose on the Summary screen.
- Promotes rapid data collection for prompt use after a radiation exposure incident.
- Provides diagnostic information using multiparameter indices for managing radiation casualties.
- Records additional related clinical information (e.g., extent of contamination, wounds, infection) necessary for proper medical care.
- Archives collected data for later use in radiation protection matters.
- Complies with NATO STANAG 2472, NBC/MED: Determination and Recording of Ionizing Radiation Exposure for Medical Purposes.
- Runs on Windows XP with at least 512MB ram.