

# Dose Calculation Algorithms

## Overview

The decimal eRT software application uses the Pencil Beam Redefinition Algorithm (PBRA) as primary means of computing electron beam dose. This is a semi-analytical model that combines pencil beam theory with a localized electron transport process to create a fast and accurate dose calculation. Many

published references exist in the literature for this algorithm, including: 1.



REFERENCE 1 2.



REFERENCE 2 3.



REFERENCE 3

While the PBRA is well described in the literature, as shown above, a basic description is also provided herein, to allow users to develop a more complete understanding of the eRT software and the commissioning data it uses.

## Pencil Beam Redefinition Algorithm



Details of the PBRA here

From:  
<http://apps.dotdecimal.com/> - decimal App Documentation

Permanent link:  
[http://apps.dotdecimal.com/doku.php?id=electronrt:userguide:instructions\\_for\\_use:dose\\_algorithms&rev=1764346780](http://apps.dotdecimal.com/doku.php?id=electronrt:userguide:instructions_for_use:dose_algorithms&rev=1764346780)

Last update: 2025/11/28 16:19

