A SOFTWARE FOR AUTOMATIC CALCULATION OF RED CELL VOLUMEN AND PLASMA VOLUMEN BY ISOTOPIC DILUTION METHOD

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**Introduction:**

A nuclear medicine study is the gold standard for blood volume measurement. Blood volume studies using the indicator dilution technique and radioactive tracers have been performed in nuclear medicine departments for over 50 years.

The calculation of red cell volume and plasma volume are not very complex but annoying and time-consuming.

**Objective:**

The aim of this study is to develop a software tool to automatically calculate the red cell volume and the plasma volume.

**Materials and methods:**

For developing a software incorporating these calculations we have used Visual Basic 6.0

**Results:**

We have developed two forms for easy calculation of red cell volume and plasma volume. This forms relies on a database to store, manage and retrieve the data of red cell volume and plasma volume studies. Moreover the form offers the possibility of printing a detailed report of each study. These forms are included in a software called Nucleolab, which is available at: www.radiofarmacia.org/nucleolab-english

**Conclusion:**

The software we have developed has an easy-to-use interface, that makes the calculation complexity of red cell volume and plasma volume completely hidden for the user, saving you the time that you previously spent on these laborious calculations and reducing the risk of error.