

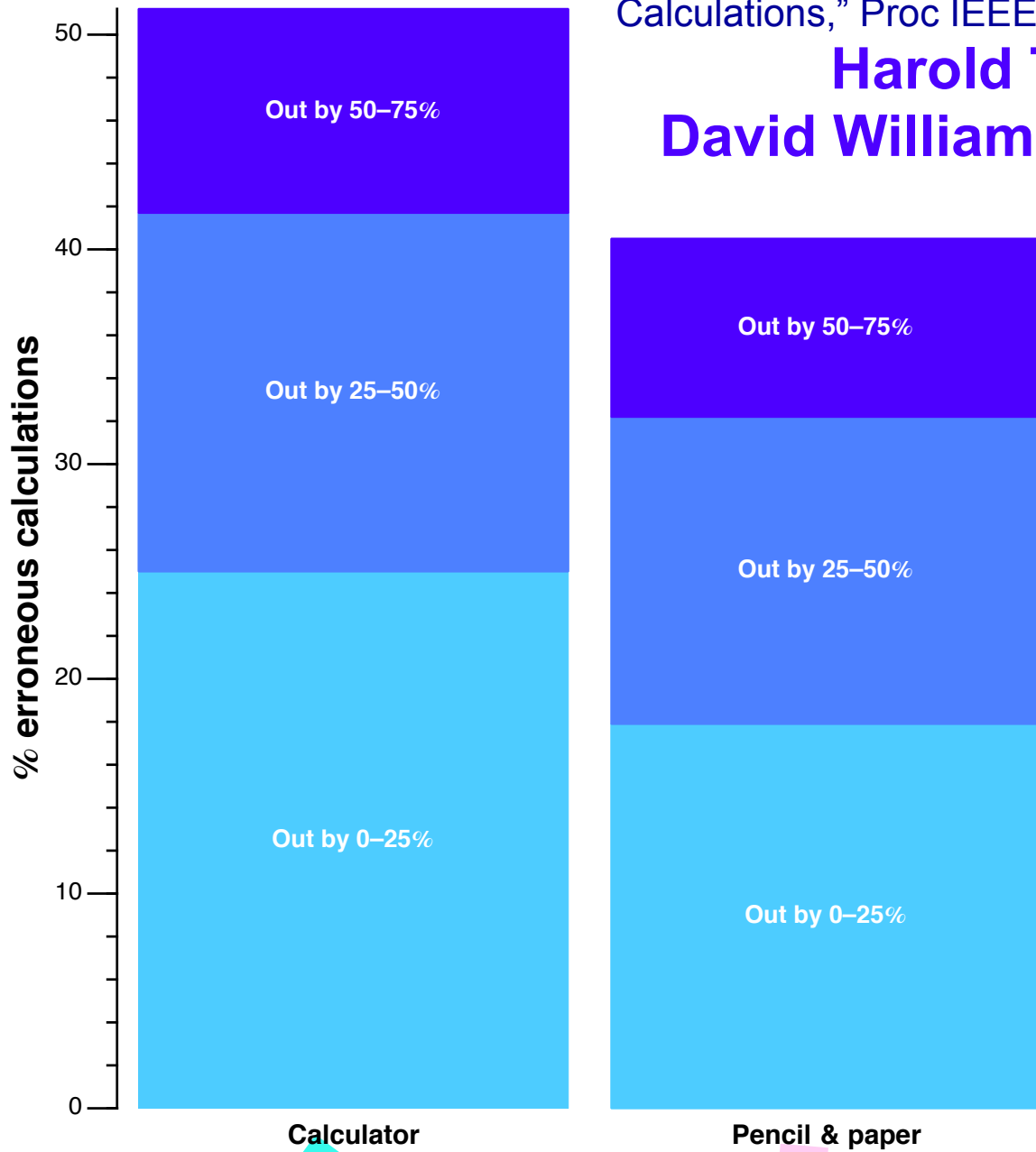
Reducing harm in clinical calculations

PDF and full citation: H Thimbleby & D Williams, "Using Nomograms to Reduce Harm from Clinical Calculations," Proc IEEE Int Conf on Healthcare Informatics, 461–470, 2013.

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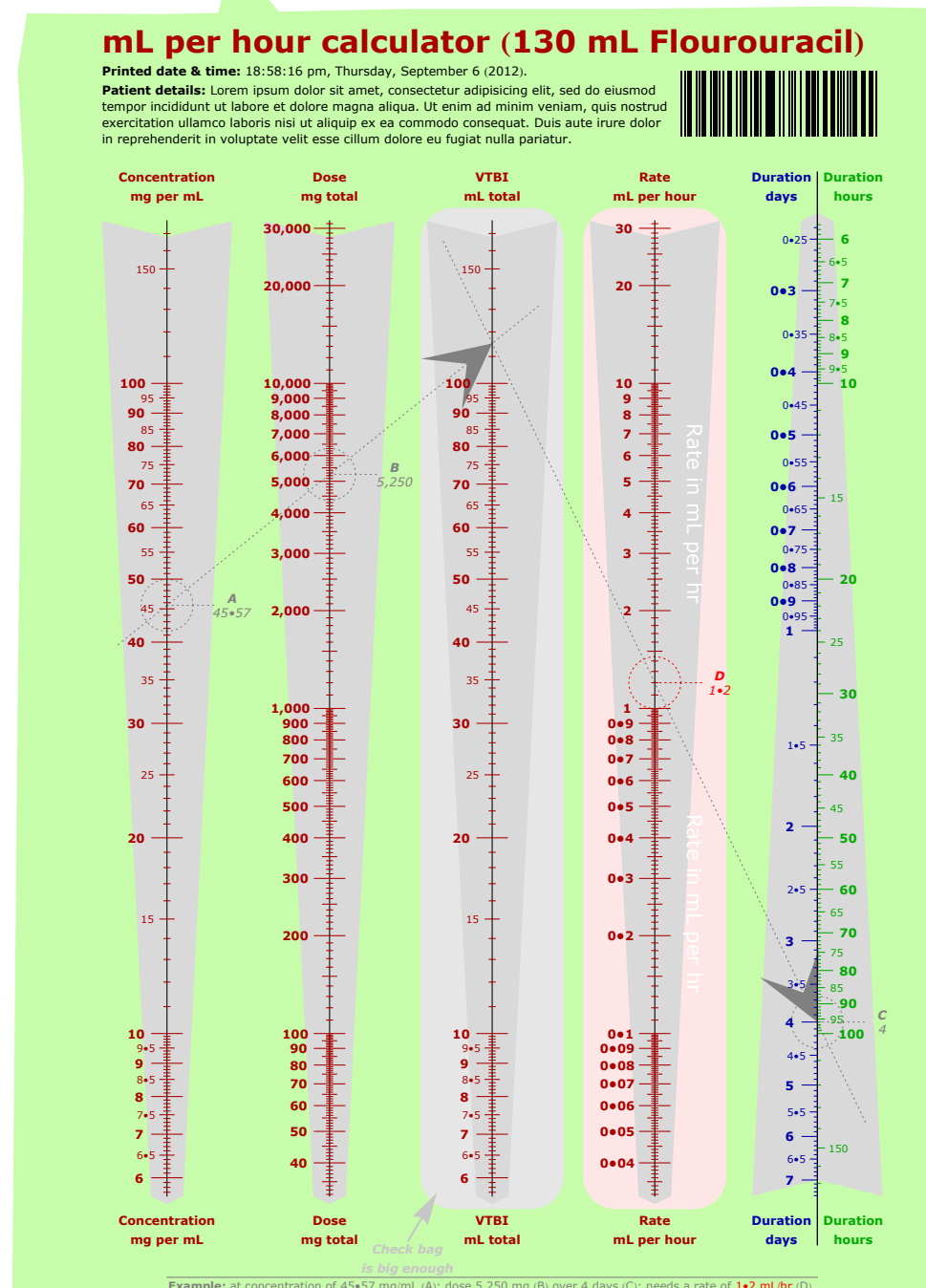
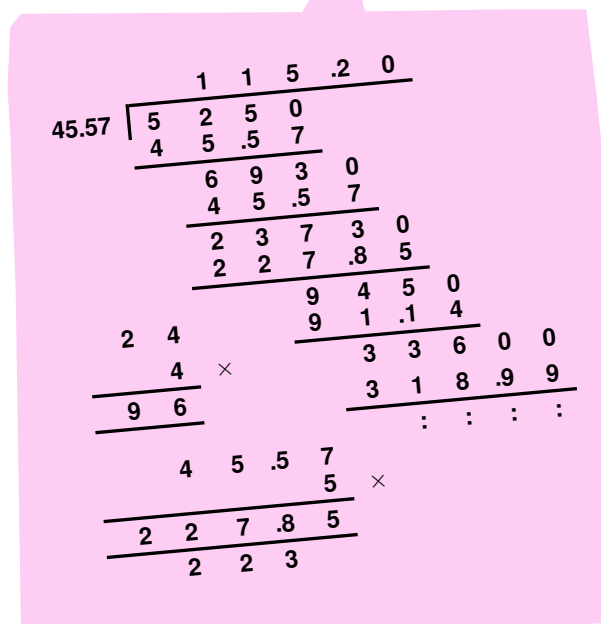
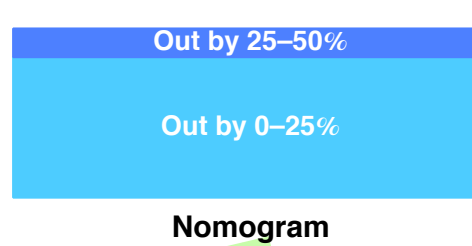
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Sometimes computers and calculators aren't best. Our experiments show that calculations using nomograms are safer.

The bar chart shows that for a handheld calculator, over half of all calculations have significant errors. 10% of all errors are out by 50–75%.

Pencil and paper is slightly better, but nomograms have no errors out by more than 50%, and only 7% errors out by 0–25%.



What is a nomogram?

Nomograms are paper (or plastic sheet) diagrams that nurses can do complex calculations on by just drawing lines. The example on the right uses two lines to do a drug dose calculation, getting the rate in mL per hour and the volume from the total mg dose, concentration, and duration of the dose. The nomogram can be put in the patient notes to record the calculation.