Received:
10 May 2013

Accepted:
13 May 2013

doi: 10.1259/bjr.20130267

Cite this article as:

Hogg P, Taylor M, Szczepura K, Mercer C, Denton E. Pressure and breast thickness in mammography—what about physics? *Author reply*. Br J Radiol 2013;86:20130267.

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Pressure and breast thickness in mammography—what about physics? *Author reply*

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To the Editor

We should like to thank Drs Grimbergen and Den Heeten for taking the time to read our article [1] and to write a letter [2]. We are pleased our work is generating discussion and in particular that the optimisation of compression force in mammography continues to attract interest in order to improve image quality, minimise radiation dose and enhance the patient/client experience. We were interested to read their critique of the literature generally in relation to the terminology which is used in many publications, including our article. We accept we have used colloquialisms that are common in clinical practice and are not necessarily the correct physics terms. We apologise for using clinical terminology and we hope this does not distract the reader from the underlying value of our work. We were interested to learn about Siemens Opcomp® (Erlangen, Germany); however, we did not investigate this technology. The unit on which our study was carried out was Hologic™ Selenia (West Sussex, UK).

Drs Grimbergen and Den Heeten commented “the large variability of the breast dimensions between females is not taken into account. In our view, the thickness difference vs pressure should be considered, taking the individual dimensions of the breast into account.” This is a useful observation, and we thank the authors for this comment. Although the initial breast thickness was measured, it was decided to normalise the data, as described in the paper, as breast thickness on its own may not correctly represent

the breast volume. Instead, we decided to concentrate on the change in thickness that the compression force offered. The different paddle sizes were considered separately; however, individual dimensions of the breasts were not measured. Therefore, breast thickness vs pressure could not be assessed.

We were very interested to read about the work Drs Grimbergen and Den Heeten are doing in trying to prove that pressure is a better entity to standardise in mammography. We wish them every success with this. On searching the internet, we found that they are Chief Scientific Officer and Chief Technical Officer of Sigmascreening (Amsterdam, Netherlands); this medical device company is promoting a new paddle design/prototype [<http://www.sigmascreening.nl/product> (accessed 30 April 2013)]. Sigmascreening's website indicates that research studies have been done with their prototype, but unfortunately we could not find any peer reviewed journal publications related to it. We did identify some abstracts, and they appear to provide encouraging information. However, we are unable to comment on their approach as limited data exist for us to give an informed opinion. As new data are published, we look forward to constructive discussion about the relative merits of their approach.

Yours etc.,

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REFERENCES

1. Hogg P, Taylor M, Szczepura K, Mercer C, Denton E. Pressure and breast thickness in mammography—an exploratory calibration study. Br J Radiol 2013;86:20120222.
2. Grimbergen CA, Den Heeten GJ. Pressure and breast thickness in mammography—what about physics? Br J Radiol 2013;86:20130208.