



Radiographers practice concerning breast compression in mammography

gradual versus no gradual

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Outline

- Justification
- Objectives
- Methods
- Results & Discussion
- Conclusions

Justification

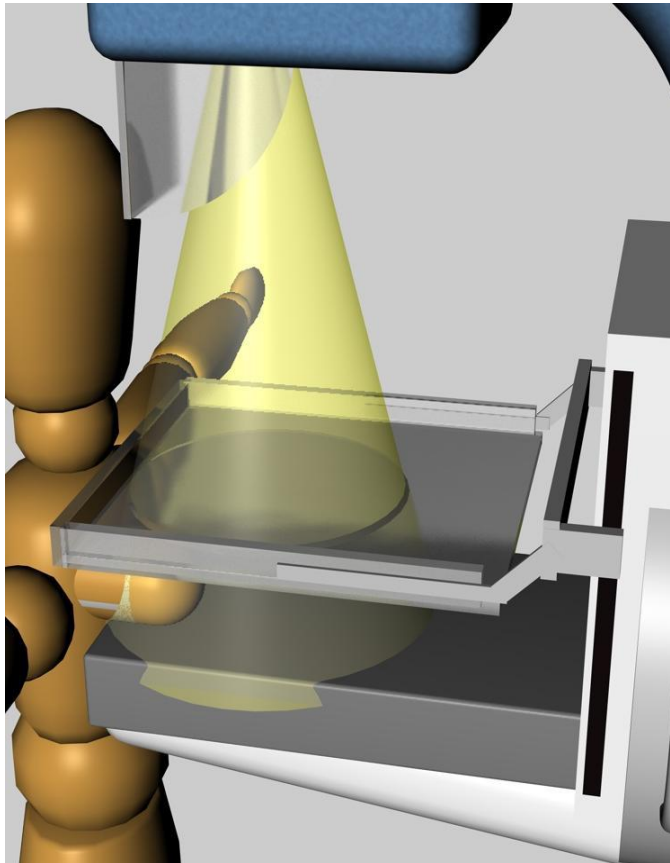
Justification

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- Overlap reduction
- Movement reduction
- Artifacts reduction
- Better image quality
- Lower Dose



- Pain/discomfort

1. Vyborny CJ, Schmidt RA. Mammography as a radiographic examination : An overview. *Radiographics*. 1989;9(4):723–64. 3. Poulos A, McLean D. The application of breast compression in mammography: a new perspective. *Radiography* [Internet]. 2004 May [cited 2012 Nov 7];10(2):131–7. Available from: <http://linkinghub.elsevier.com/retrieve/pii/S1078817404000434> , 4. Jenkins GC. Pain during mammography. *BMJ*. 1992;305:718.. 5. Yaffe MJ. Physics of Mammography: Image Recording Process. *Radiographics*. 1990;10:341–63. 6. Porter-Steele N. BREAST PAIN CAUSES NONCOMPLIANCE WITH MAMMOGRAPHY AND SELF-EXAMINATION. *Can Med Assoc J*. 1996;155(6):632–3. 7. Rutter DR, Calnan M, Vaile MS, Field S, Wade K a. Discomfort and pain during mammography: description, prediction, and prevention. *BMJ (Clinical research ed.)* [Internet]. 1992 Aug 22;305(6851):443–5. Available from: <http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=1882539&tool=pmcentrez&rendertype=abstract> .



Objectives

- Evaluate the type of breast compression that provides less discomfort to the patient:
 - **gradual versus no gradual**

Justification

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Justification

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METHODS

Sample

SAMPLE	AGE
30 women	19-29 y
30 women	30-50 y
30 women	> 50 y
Total = 90	

- Not random: women without interventions
- Informed Consent Form

Justification

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Compression

Justification

Objectives

Methods

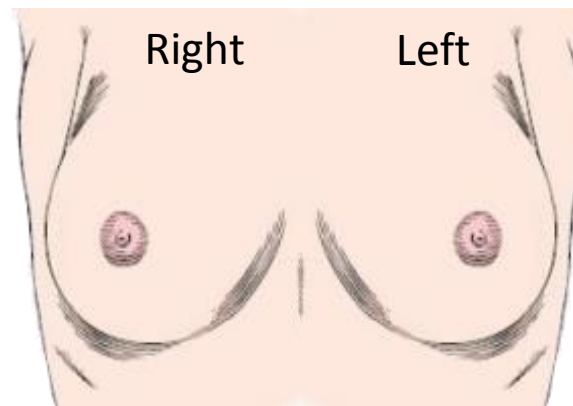
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CC

MLO

1º No Gradual
2º Gradual



1º Gradual
2º No Gradual

= Compression Force for both modes –
gradual and no gradual (kg)

Compression

Justification

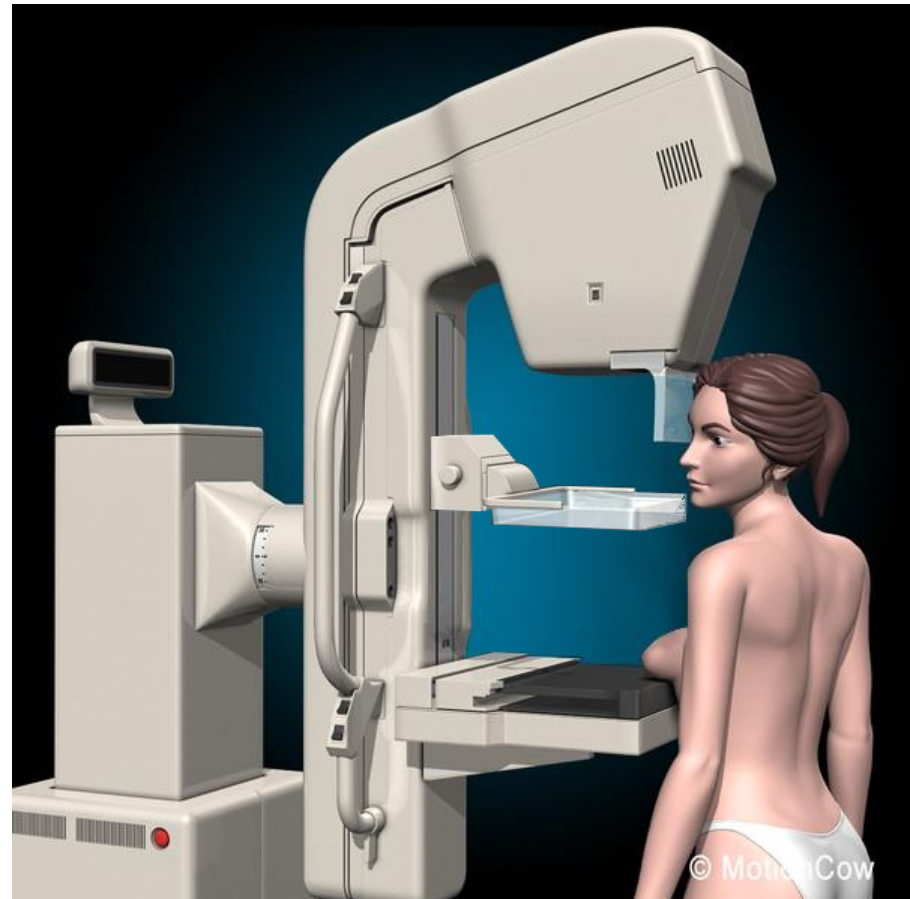
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No gradual



Compression

Justification

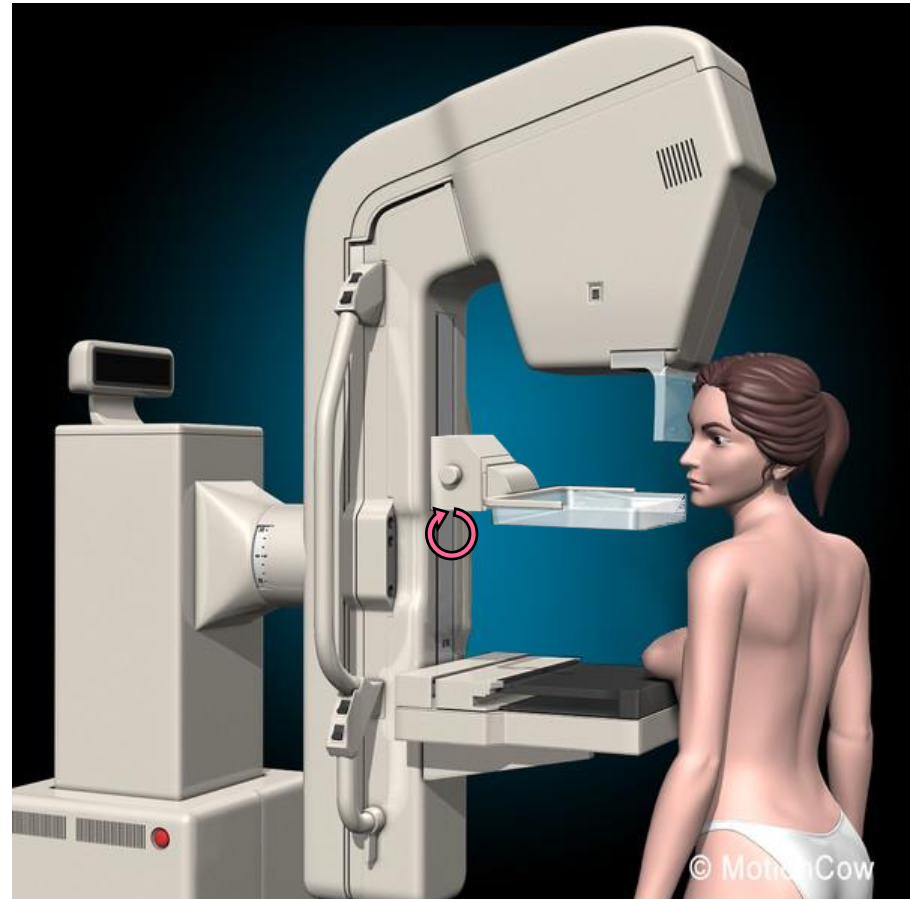
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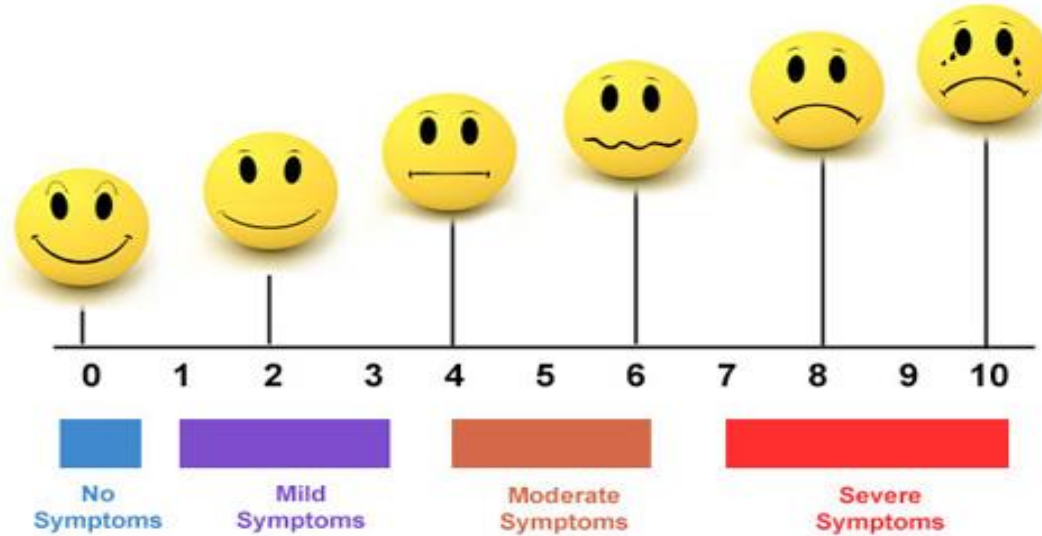
Conclusions

Gradual



Pain/discomfort evaluation

Wong Baker scale



- Data collection completed with:
 - Focus group

Justification

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Justification

Objectives

Methods

**Results &
Discussion**

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RESULTS & DISCUSSION

Compression force & breast thickness

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	Compression Force (mean; min; max)		Thickness (mean; min; max)	
	CC	MLO	CC	MLO
Age (years)				
19-29	7 (4-11)	5 (3-9)	49 (25-66)	51(34-66)
30-50	6 (3-11)	6 (3-9)	55 (36-78)	56 (39-80)
> 50	6 (3-11)	6 (4-9)	57 (36-72)	58 (27-80)

- Compression force was higher for CC-view
- Thickness was higher in MLO-view

Pain/discomfort evaluation - compression

Justification

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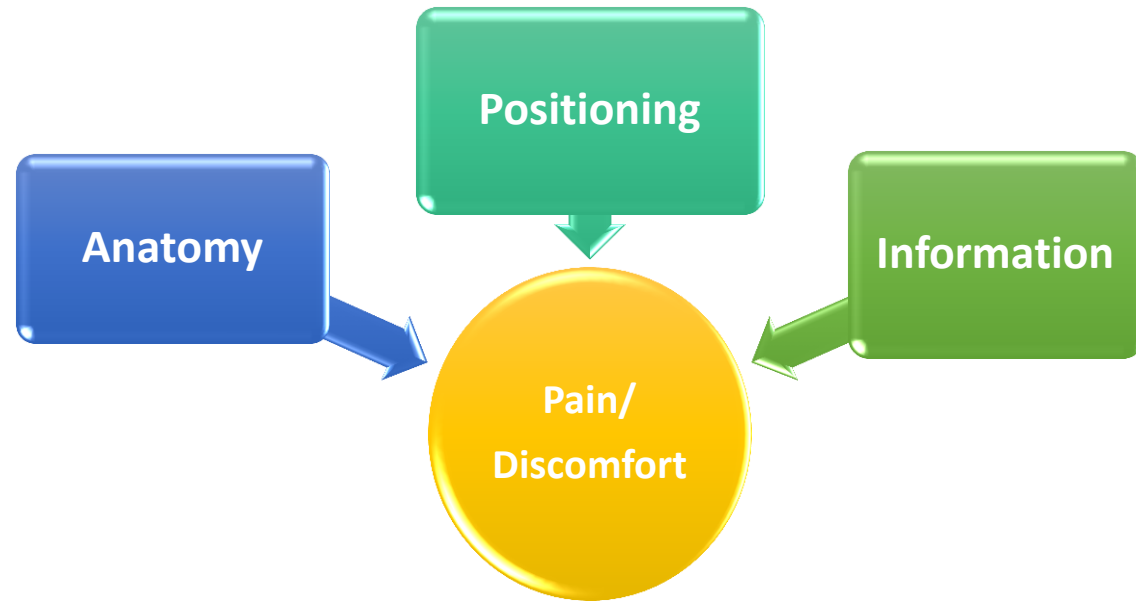
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	NO gradual compression (Mean; sd)		Gradual compression (Mean; sd)	
Age (years)	CC	MLO	CC	MLO
19-29	3.6±2.5	4.5±1.9	3.9±1.9	3.4±1.8
30-50	3.6±2.4	4.9±2.7	3.0±2.2	3.9±1.9
> 50	3.2±2.7	3.7±2.7	2.3±2.1	3.0±2.1

- Higher score (pain) for:
 - MLO projection
 - No gradual compression
 - Younger women

Pain/discomfort evaluation



- “(...) I did not fill pain only discomfort ... mainly when the muscle is pulled (...)”
- “(...) it was hard mainly in oblique projection (...) the positioning of axila is painful.”
- “(...) There is period of adaptation with gradual compression(...) causes less pain and discomfort...however the procedure is longer.”
- “(...) The previous information that I had it was not real (...) the compression is not so difficult”.



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CONCLUSIONS

Gradual vs No gradual

- For all ages the pain score was $<$ to 5.
- For both projections gradual compression was considered the less painful.
- MLO projection was considered the most uncomfortable due to the positioning of muscle and axila.

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Thank you for your attention

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