



UNIVERSITY OF  
PORTSMOUTH

# BREAST HEALTH NEWS

Research Group in Breast Health  
University of Portsmouth  
Issue eight - January 2020

WELCOME TO THE 8TH EDITION OF THE RESEARCH GROUP IN BREAST HEALTH NEWSLETTER

The group, led by Professor Joanna Wakefield-Scurr, is internationally renowned for conducting pioneering fundamental and applied research into this important aspect of women's health.

Our research group continues to evolve and this year we have welcomed back two members. Dr Jenny Burbage has returned from maternity leave and Dr Amy Sanchez has returned to replace Dr Michelle Norris who has taken up a new position on the BREASTech project aiming to increase physical activity in breast cancer patients. We would also like to congratulate Professor Joanna Wakefield-Scurr who gave birth to twins in July.



## BREAST EDUCATION BOOSTS SCHOOLGIRL CONFIDENCE AND ENTHUSIASM FOR EXERCISE

IN 2017 WE REPORTED THAT 87% OF UK SCHOOLGIRLS WANTED TO LEARN MORE ABOUT THEIR BREASTS. OVER THE PAST TWO YEARS, WE HAVE DEVELOPED AND DELIVERED A 50-MINUTE MULTIPLE TOPIC BREAST EDUCATION SESSION TO HUNDREDS OF SCHOOLGIRLS.

The session covers a range of topics including breast size and shape, the importance of breast support, how to obtain the correct bra fit, and breast awareness. Using validated evaluation tools, the session was found to be effective, with schoolgirls demonstrating significant improvement in their breast knowledge, their attitudes to their breasts, and their engagement with positive breast habits after the session. These improvements were sustained when re-tested after six months.

When asked about the workshops, the schoolgirls described them as "informative", "insightful", "important" and said it made them "feel less embarrassed and more confident" about their breasts. They also reported wanting to do more exercise, demonstrating the wider positive impact of our breast education sessions.

If you are interested in hearing more about our breast education project, or working with us to implement or evaluate breast education interventions for your own needs, please contact Atefeh Omrani (PhD student) at [Atefeh.Omrani@stmarys.ac.uk](mailto:Atefeh.Omrani@stmarys.ac.uk) or Dr Nicola Brown at [nicola.brown@stmarys.ac.uk](mailto:nicola.brown@stmarys.ac.uk).





## BREAST EDUCATION INITIATIVE GAINS NATIONAL RECOGNITION

Our breast education research has been cited in several articles highlighting the lack of breast knowledge and sports bra use in many different female groups, from schoolgirls to elite sportswomen. Research group member Brogan Horler recently attended the netball world cup where several of the competitors were observed not to be wearing appropriate breast support. This widespread lack of breast awareness, and positive role models, may contribute to the rapid decline in female sport participation observed in secondary schools.

Researcher Dr Nicola Brown was recently invited to Westminster to present the group's research findings on the breast concerns of adolescent girls to the All Party Parliamentary Group on Breast Cancer. During this session Dr Brown shared the strategies we have developed to educate girls about breast health.

Dr Brown's work has also gained support from public figures such as Eartha Pond (former Arsenal footballer and now PE teacher), and from the Bust Trust foundation. Moving forward we aim to engage with more MP's to encourage schools in their local constituencies to utilise our breast education resources and educate thousands of young girls.

## RGBH LAUNCH FREE EDUCATION RESOURCES

Based on the positive impact of our education initiative, our Research Group has developed a free online resource for schoolgirls, teachers and parents to further disseminate up to date information about breast health. Download our resource here:

[www2.port.ac.uk/breasteducation/download-resources/](http://www2.port.ac.uk/breasteducation/download-resources/)

## BREAST ASYMMETRY OBSERVED IN ALMOST 90% OF HEALTHY WOMEN

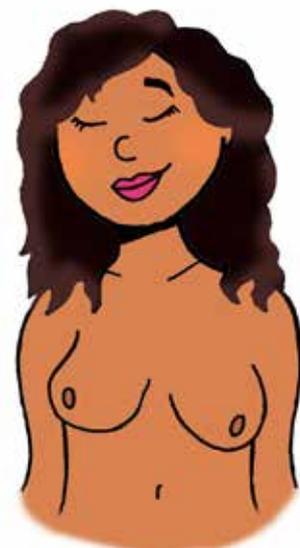
WE COLLATED DYNAMIC BREAST DATA FROM 167 WOMEN DURING RUNNING TO INVESTIGATE BREAST MOVEMENT ASYMMETRY.

Differences in breast movement between the right and left side has clear implications on breast support requirements. Specifically, differences in mass, may affect the forces that must be controlled by a bra. Eighty nine percent of the women tested showed significant movement asymmetry, with the left breast typically moving more than the right. This asymmetry was not found to be related to overall breast size, contradicting previous studies which have reported larger asymmetries in women with larger breasts (Manning, Scutt, Whitehouse, & Leinster, 1997).

Use of a sports bra reduced the occurrence and magnitude of movement asymmetry, depending on the bra, but did not eliminate it. The most effective sports bra for reducing asymmetry had an encapsulation style that allowed for individual adjustment of both the shoulder straps and underband.

This study demonstrates that asymmetrical breast movement is normal for healthy women. Significant breast asymmetries can be reduced most effectively using an encapsulation style bra that can be adjusted to each breast separately. The results of this study have implications for bra design, particularly for garments aimed at populations where asymmetry may be a particular issue such as women who have undergone breast surgery.

Exell, T., Milligan, A., Burbage, J., Risius, D., Sanchez, A., Horler, B., Mills, C. & Wakefield-Scurr, J., (2019). There are two sides to every story: implications of asymmetry on breast support requirements for sports bra manufacturers. *Sports Biomechanics*



## SPECIALIST LABORATORY DEVELOPED FOR FEMALE HORSE RIDERS



Ongoing collaboration between our Research Group and Sparsholt College has led to increasing awareness about breast support requirements for female horse riders. Researcher Dr Jenny Burbage and Sparsholt College tutor Lorna Cameron initiated research into riding biomechanics and breast support using video analysis of female horseriders taken at Quob Stables Equestrian Centre in Southampton. Initial results showed that 59% of females experienced breast-related issues when horse riding (Burbage & Cameron, 2017). The high prevalence of breast issues, combined with persisting questions about the effect of breast motion on rider-horse interaction has led to increasing interest in breast biomechanics research within the equine community.

Sparsholt College has recently invested in an on-site motion capture laboratory equipped with a high speed optoelectronic camera system and horse riding simulator. The state of the art facilities, combined with our Research Group's expertise, places us in an excellent position to pioneer biomechanical research into the health and performance of female horse riders.

If you are a female horse rider and interested in taking part in our latest research study please go to the following link: [shorturl.at/hoxGT](https://shorturl.at/hoxGT)

Burbage, J., & Cameron, L. (2017). An investigation into the prevalence and impact of breast pain, bra issues and breast size on female horse riders. *Journal of sports sciences*, 35(11), 1091-1097.

## SUPPORTING BRITAIN'S ELITE ATHLETES

We have been working in collaboration with the English Institute of Sport and Clover Group Int. Ltd. Hong Kong (lingerie manufacturer) on the SmartHER campaign supporting Britain's elite female athletes. The campaign aims to better understand the female athlete in order to encourage communication in the sporting community and to gain crucial improvements in performance at world-class events.

This project began with educational workshops delivered to elite female athletes around the UK. Athletes were then invited to attend one-to-one follow up sessions to discuss specific breast and bra-related issues that were affecting their health or sporting performance. Many athletes and support staff from 13 different sports attended. The main issues that arose were: lack of bra and breast education; difficulty putting on and adjusting bras; the negative impact of a bra on performance; and sporting impairment caused by breast motion.

The majority of athletes wanted advice on bra styles and fit. Most athletes wore compression style bras and were unaware of the improved breast support achievable with encapsulation styles. Many athletes were also wearing ill-fitting, and unsupportive, garments. Athletes rarely purchased their own sports bras and instead wore free ones given away at events and competitions. These bras were often the incorrect size or inappropriate for the athlete's sport. There was particularly poor provision at both ends of the size scale, with one athlete stating that the bra provided for her was so small that she would need one for each breast!



Bra design was a common discussion point for many athletes, as manufacturers do not often consider factors such as thermal comfort, aerodynamics, or the incorporation of trackers and monitors when designing their products. Among the women we met, approximately 15% were Paralympic athletes. These athletes had particular issues with bra fastening and adjustments, often leading to dependence on an assistant when dressing for training or competition.

Having gained insight into these issues, we will now be continuing to work with a small number of these athletes to provide customised breast support garments that may alleviate the most severe symptoms experienced by these exceptional women.

## MAKING AN IMPACT

To contribute to our objectives of broadening understanding and raising awareness in this important aspect of women's health, the team from the Research Group in Breast Health regularly attend, or present at, events and publish research findings.

### Future events

February 2020: Dr Jenny Burbage is presenting her work with the military at the International Congress on Soldiers Physical Performance in Quebec City.

### Recent events and announcements

March 2019: Dr Nikki Brown presented on breast health for athletes at the International Association for dance medicine and science regional meeting in Edinburgh

June 2019: Dr Nikki Brown organised the Women in Sport and Exercise Conference at St Mary's University, Twickenham.

June 2019: Professor Joanna Wakefield-Scurr presented 'Is breast bounce an issue for exercising females?' at the Women in Sport and Exercise Conference at St Mary's University, Twickenham.

June 2019: Dr Jenny Burbage attended the Women in Sport and Exercise Conference at St Mary's University, Twickenham.

July 2019: Brogan Horler and Dr Jenny Burbage spoke about their contributions to the book entitled 'The Exercising Female: Science and it's application' in a Women in Sport and Exercise Academic Network (WISEAN) podcast.

October 2019: Atefeh Omrani presented on the short and long-term impact of a breast education intervention on adolescent girls' breast knowledge and attitudes to breasts at the Breasts and Bras event at the University of the Arts in London.

October 2019: Dr Tim Exell attended the MATLAB Expo 2019, Silverstone, Northamptonshire.

November 2019: Dr Amy Sanchez spoke about her work with elite female athletes in a podcast for coaches and athletes at the English Institute of Sport and a variety of National Governing Bodies for sport.

The majority of our outputs can be accessed by searching the relevant authors name (highlighted in bold) at <https://researchportal.port.ac.uk/portal/en/publications/search.html>.

## Can we help you?

### Workshops

We offer one-day breast science workshops that can be tailored to meet your objectives, covering topics such as breast biomechanics, bra support requirements, bra fit, breast movement, and the importance of breast support. For more information, please email [jenny.burbage@port.ac.uk](mailto:jenny.burbage@port.ac.uk).

### Product testing

Due to the huge demand for our product testing, we offer off-the-shelf bra testing packages at highly competitive rates, offering clients very quick results. For more information, please email [breastresearch@port.ac.uk](mailto:breastresearch@port.ac.uk).

### Research projects

Are you involved in the design, manufacture, retail or marketing of bras or sports bras, or breast healthcare? Would you like to improve your service or products? If so, please contact us using the details below to discuss how we could help.

### How you can help us

We are always looking for women to take part in our research. If you would like to be involved, please contact us using the details below or alternatively read through our current ongoing projects at [goo.gl/QnwNXk](https://goo.gl/QnwNXk).



## Contact us

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