



# THE SCIENTIFIC SECRETS FOR SPORTSBRAS

By Fernanda Carvalho



ANCIENT ROME - LEATHER & CLOTHS

VICTORIAN ERA – CORSETS METAL AND WHALE BONES

1911 – FLEXIBLE SPORTS CORSETS

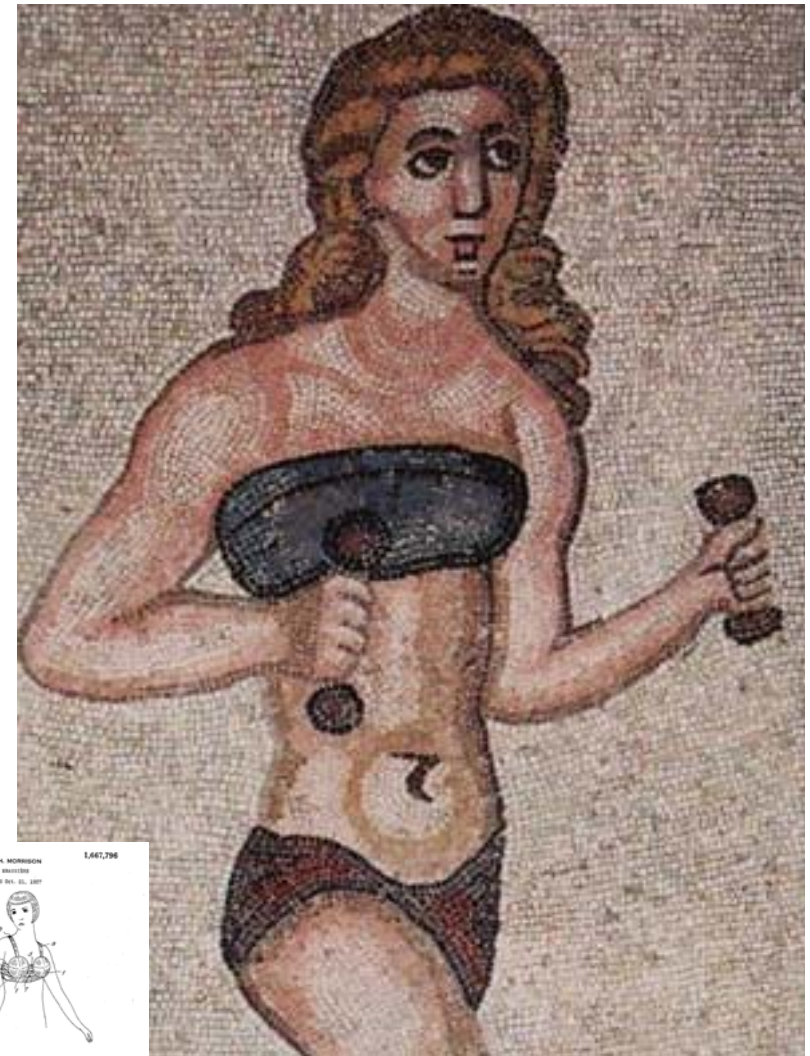
1920 – PATENTED SPORTS BRAS

1977 – VICTORIA SECRET & HINDA MILLER JOGBRA

1998 – SPORTS BRA INDUSTRY = \$414 MILLION

2002 – 6% OF \$4.5 BILLION BRA MARKET

TODAY – MORE THAN \$15 BILLION



**The invention of the sports bra**

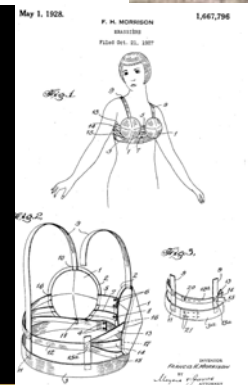
The criteria: **soft** against the body and **strong**

The Prototype was **two jock straps sewn together**

The '**butt straps**' were sewn together for **wide straps**

The jockstrap's wide waistband went **under the ribcage**

**BIGSPORT**



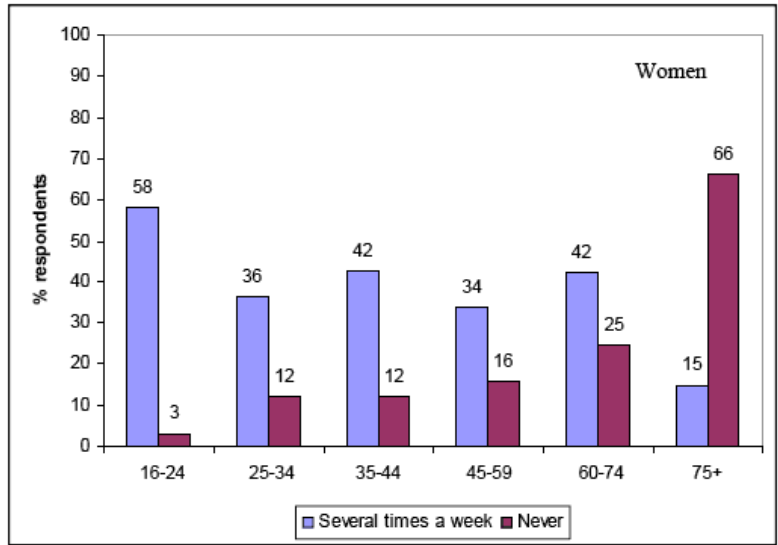
history

*Since You Can't Run Naked...in most places*

spent over \$100 on running clothes last year

80.4%

77%



**WHAT A PAIN IN THE BUST!**  
HOW POOR SPORTS BRA FIT RUINS YOUR RUN

Many women invest in good running shoes but neglect to protect their breasts during exercise with a properly fitting sports bra.

75% of female runners report sports bra fit issues

28% *Complain of chafing*

54% *Have B over 1 year old*

22% *Complain of digging or chafing*

WINNING FIT

FINISH LINE

IMPROVE YOUR RUN WITH WINNING SPORTS BRA PRACTICES:

- > Get a bra fitting at least once a year to determine your size and the optimal sports bra style for your body type.
- > Replace your sports bra every 8-10 months of regular use.

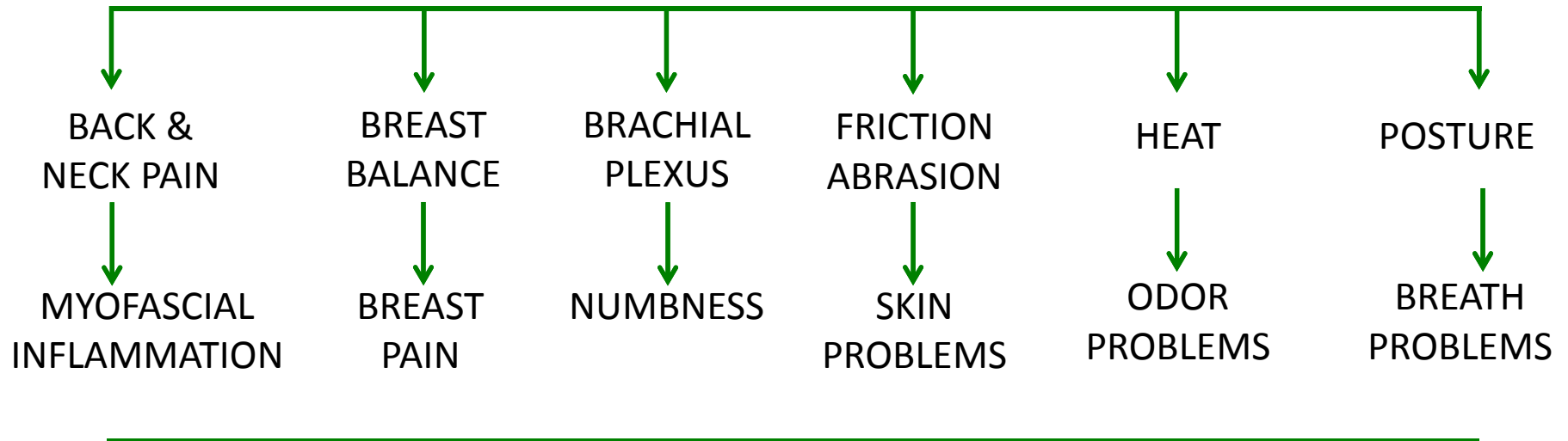
Source: "An investigation into breast support and sports bra use in female runners of the 2012 London Marathon", Journal of Sports Sciences

Chantelle PARIS

market



## WRONG SPORTSBRA



40% to 60% of women claims about breast pain during exercises!

- Less likely to exercise
- Have worse performance
- More health problems

# claims

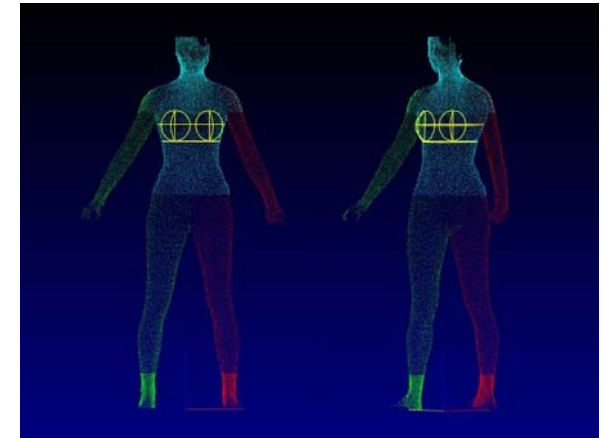


## GLOBAL RESEARCHES:

**Jenny White** – University of Portsmouth – London

**Julie Steele** – University of Wollongong – Australia

**Felipe Alloza & Cristina Rossi** – Compasso Institute – Brazil



“Understanding the biomechanics of bouncing is key to understanding how to make it stop, but it's a field that's only recently gained traction.” **Julia Rubin**

“Since breast size, placement, and density are different for every woman, researchers need to look at a large sample to get a good idea of what's going on.” **Julia Rubin**

PAIN

BALANCE

HEAT

NUMBNESS

ABRASION

POSTURE

COMFORT

# researches

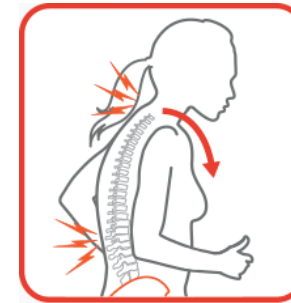


2013 – London Marathon – 1,300 women.

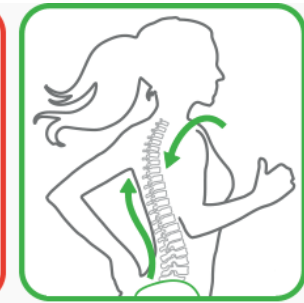
*“A full 75 percent of the marathon runners White talked to had some kind of bra problem during training”*

“You might start seeing changes in the patterns of their running. You're probably going to see a decrease in stride levels. You're just not performing as well as you could.”

Jenny White – University of Portsmouth – London



WITHOUT



WITH = ALIGNMENT

- |      |         |      |          |          |         |         |
|------|---------|------|----------|----------|---------|---------|
| PAIN | BALANCE | HEAT | NUMBNESS | ABRASION | POSTURE | COMFORT |
|------|---------|------|----------|----------|---------|---------|

omni tests





### PRIMARY LAB TESTS

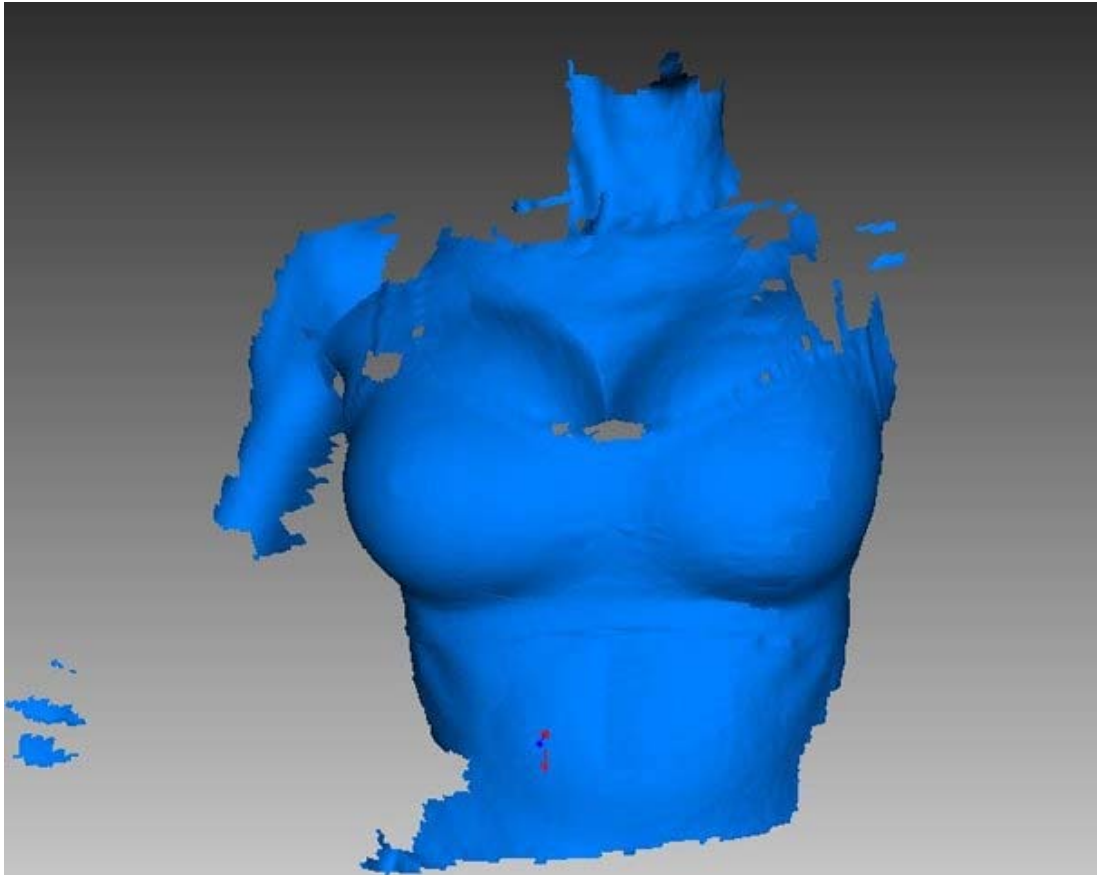
- 1) NO SPORTSBRA test
- 2) COMPRESSION test
- 3) ENCAPSULATION test
- 4) Medical tests



**VERTICAL OSCILLATION** = 13cm body & 29cm sole

**HORIZONTAL OSCILLATION** = 08cm body & 24cm sole

# lab tests

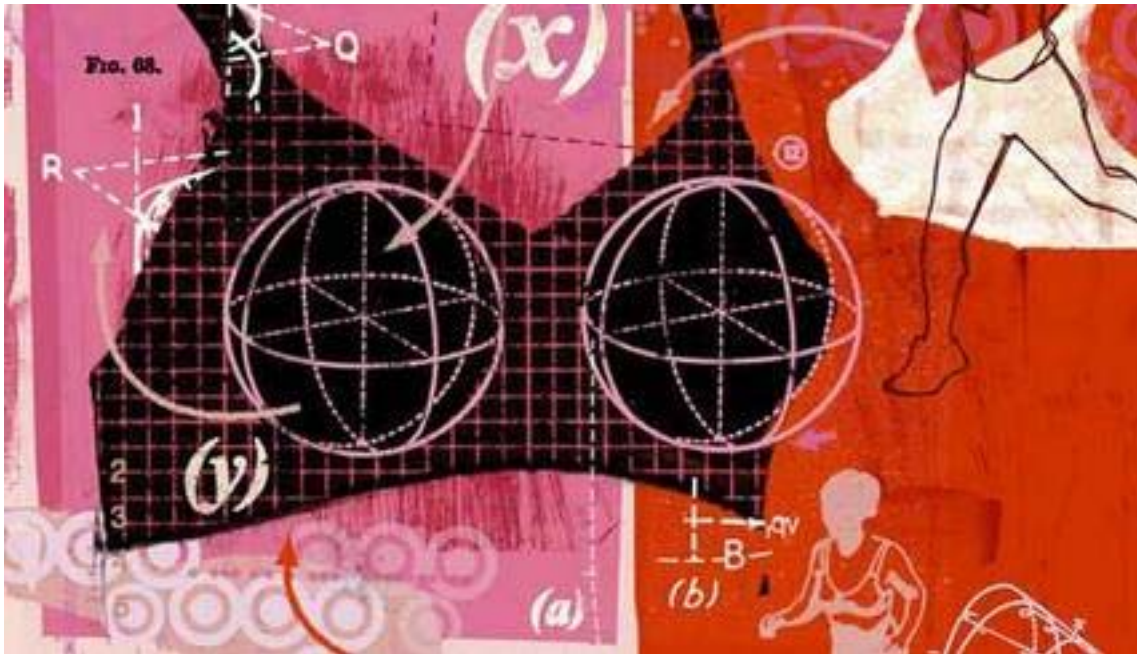


“**Compression** bras are the bras most people associate with sports bras — a single panel of fabric that **hugs the breasts into the chest.**”

The idea here is that if you can **compress the breasts against the body**, pulling them so they're closer to your **center of gravity**, they'll bounce less. Which is true, as long as the breasts in question aren't too large.” *Julia Rubin*

# compression





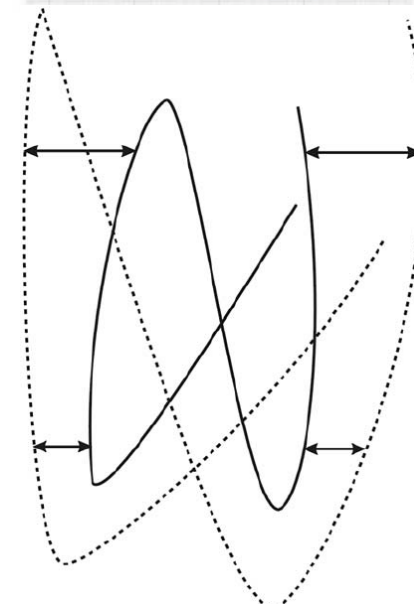
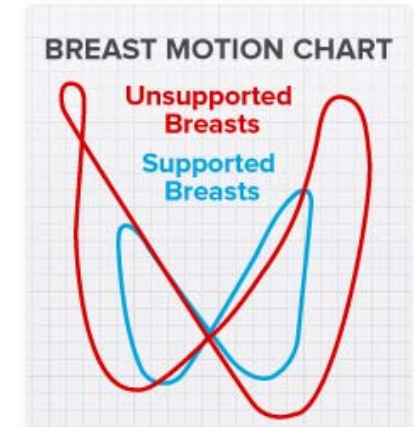
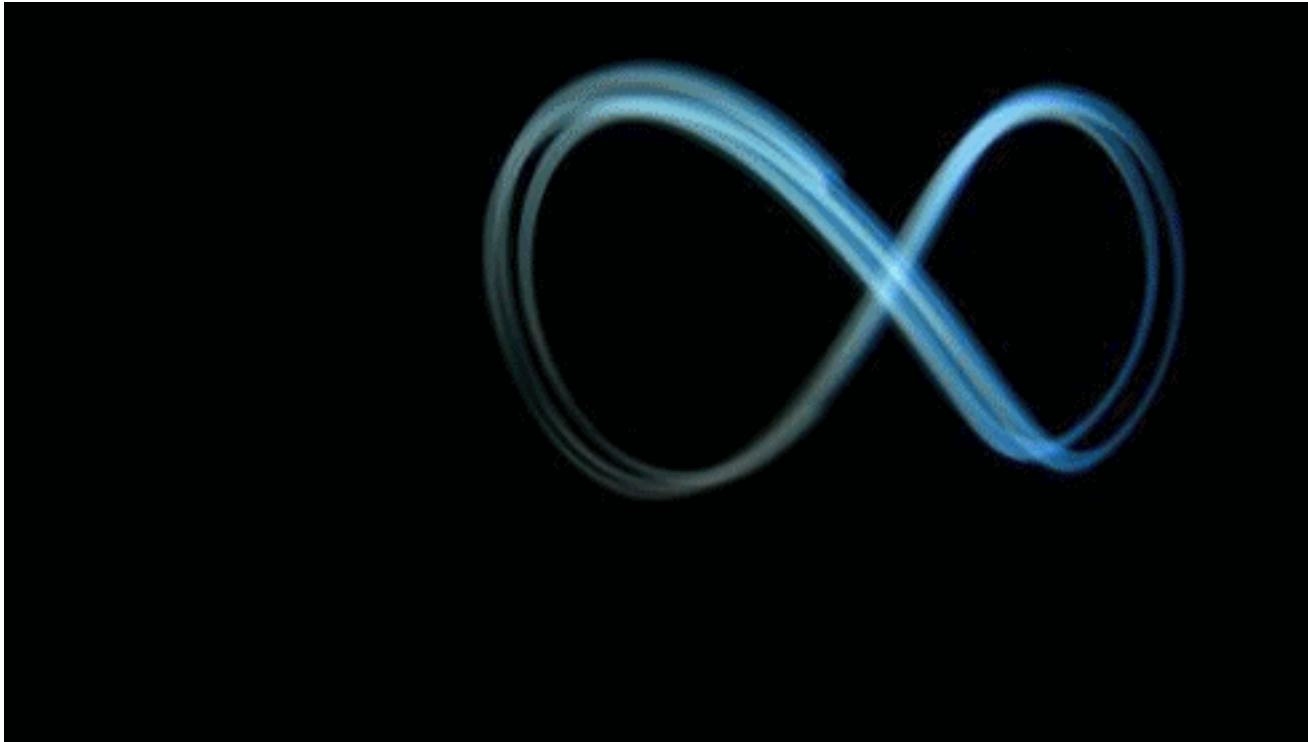
**Encapsulation bras** treat each breast individually, more like a regular bra.

While compression bras work perfectly well for women who fall into the A- and B-cup range, larger breasted women need more support.

**Alloza&Rossi** – Even A and B cup need encapsulation with tapes or fabrics to push up and work the gravity.

# encapsulation



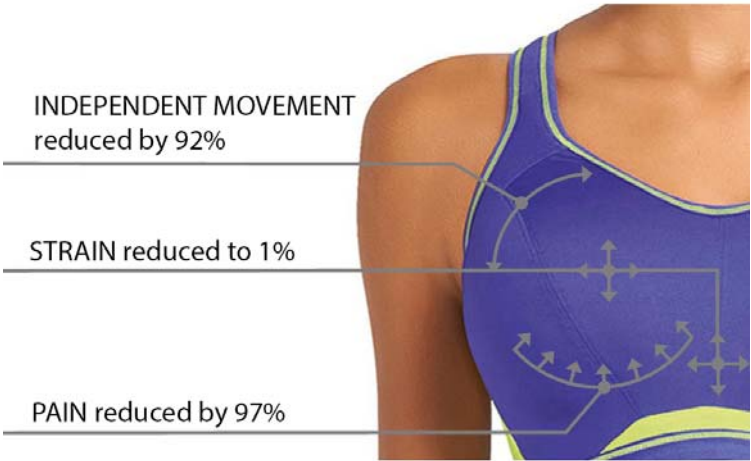


balance





**ENCAPSULATION COMPRESS**



**SECONDARY LAB TESTS**

1) NO SPORTSBRA test

2) ENCAPSULATION  
COMPRESSION test

Alloza&Rossi Research

**RESULTS FOR  
BALANCE**

INFINITY ICON

UP and DOWN

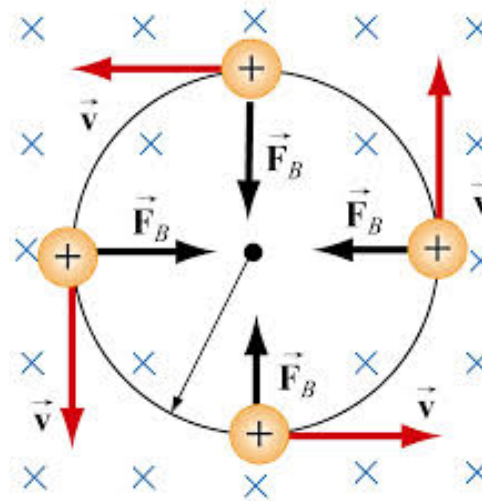
LEFT and RIGHT

*Research Conducted by Portsmouth University, UK*

**28% LATERAL OSCILLATION & 22% VERTICAL OSCILATION**

results





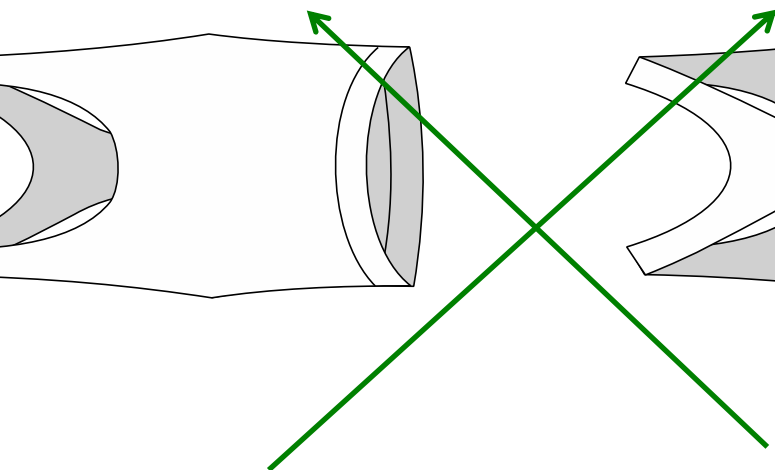
RESULTS FOR  
MYOFASCIAL  
INFLAMMATION

SWIM BACK  
SILHOUETTE

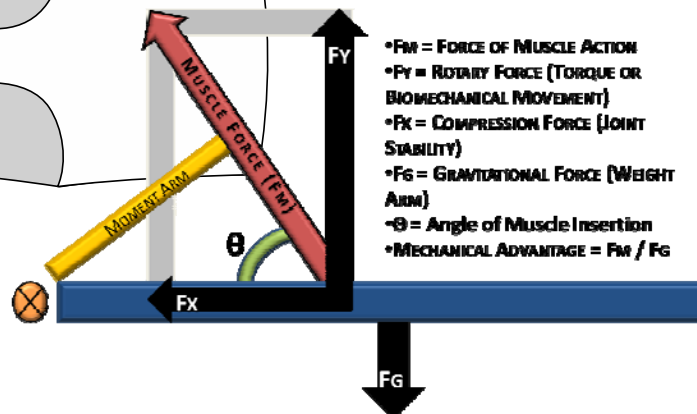
CROSS VECTOR

LARGE STRIPES

LESS PRESSURE  
ON TRIGGER  
POINT



**FORCE SYSTEM**

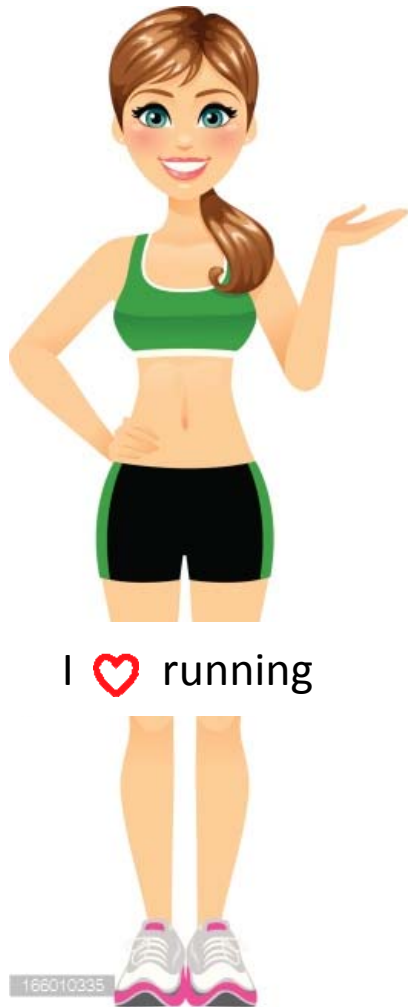


- $F_M$  = FORCE OF MUSCLE ACTION
- $P_Y$  = ROTARY FORCE (TORQUE OR BIOMECHANICAL MOVEMENT)
- $F_X$  = COMPRESSION FORCE (JOINT STABILITY)
- $F_G$  = GRAVITATIONAL FORCE (WEIGHT ARM)
- $\theta$  = Angle of Muscle Insertion
- MECHANICAL ADVANTAGE =  $F_M / F_G$

BETTER POSTURE | LESS INJURIES | LESS PAIN | BETTER BREATH

posture





POLYAMIDE FABRICS (inside)

POLYESTER FABRICS (outside)

UV PROTECTION FABRICS

MORE THAN 20% ELASTAN

NO ODOR (outside)

MOISTURE MANAGEMENT (outside)

QUICK DRY (outside)

VENTILATORS (middle & back)

RESULTS FOR  
**ABRASION**  
**FRICTION**  
**HEAT**

NO SKIN  
PROBLEMS

NO ODOR  
PROBLEMS

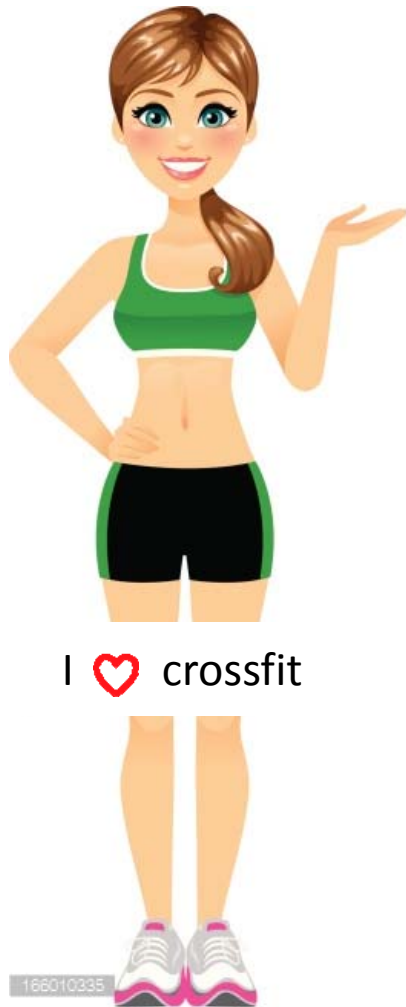
NO HEATING  
PROBLEMS

NO NUMBESS

**MORE PROTECTION | COMFORT | PERFORMANCE**

**fabrics**





**ELASTICS**

POLYAMIDE / NYLON  
 NO ODOR  
 MOISTURE MANAGEMENT  
 QUICK DRY

**DETAILS**

MESHES  
 LOCK SEW  
 USE TAPES (sew and up)  
 NO INSIDE TAGS  
 NO BRA CLOSURE  
 NO BRA WIRE  
 NO PADS

**RESULTS FOR**

**ABRASION**  
**FRICITION**  
**HEAT**

NO SKIN  
 PROBLEMS

NO ODOR  
 PROBLEMS

NO HEATING  
 PROBLEMS

NO NUMBESS

**MORE PROTECTION | COMFORT | PERFORMANCE**

**materials**





**SIZE**

LATERAL ADJUSTMENT HANDLE

HORIZONTAL ADJUSTMENT HANDLE

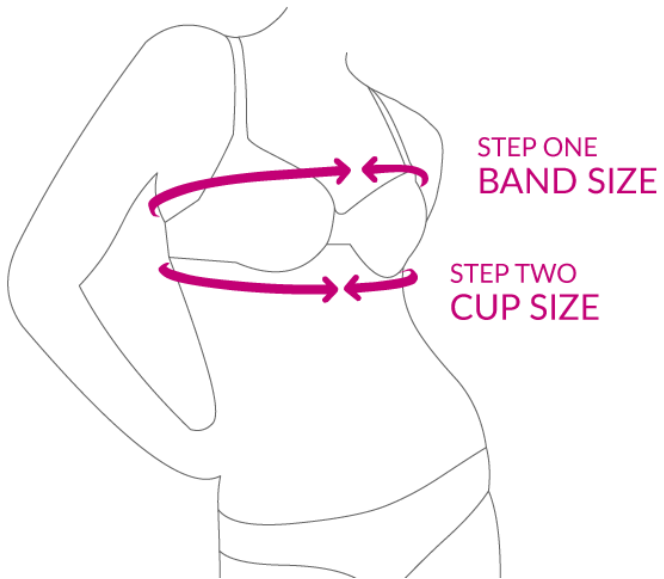
CUP & BAND SYSTEM



I ❤️ soccer

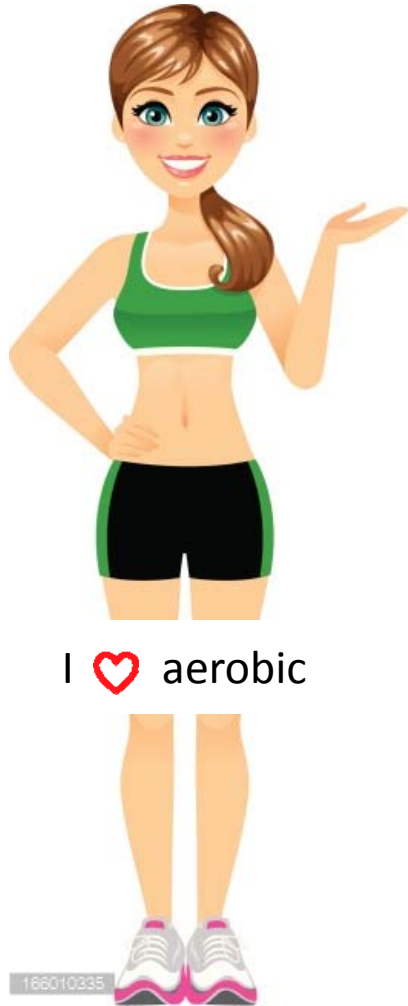


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size





To protect your breasts from unnecessary movement, use the following guide to find the right support level for your workout!

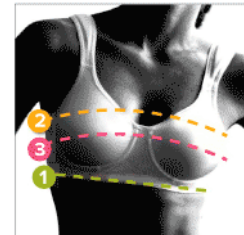
	<b>MAX SUPPORT</b>	Engineered to beat the bounce during your most intense workout. <b>Suggested activities:</b> Running, Basketball, Aerobics
	<b>HIGH SUPPORT</b>	Hugs and secures with high-impact support to control bounce for cross-training comfort. <b>Suggested activities:</b> Tennis, Cycling, Soccer
	<b>MED SUPPORT</b>	Reliable support for low-impact activities and moderate exercise. <b>Suggested activities:</b> Walking, Pilates, Yoga

CUP SIZE							
A	1						
B		2					
C			3				
D				4			
DD					4		
E/F						4	
FF/G							4

## FIT MATTERS

### 1. FINDING YOUR BAND SIZE

- Measure snugly and evenly around or just below your existing band.
- Add 5 to that measurement and round up to the next even number. This measurement is your band size.



### 2. BAND MEASUREMENT ACCURACY

- To double-check your band size, measure around your torso below your armpits. If this measurement is close to the band measurement, then your measurements are accurate.

### BUST SIZE

- Measure loosely around the fullest part of your bust, keeping the tape even.
- Subtract the band size from the bust size. The difference between the two measurements is your cup size. (See chart.)

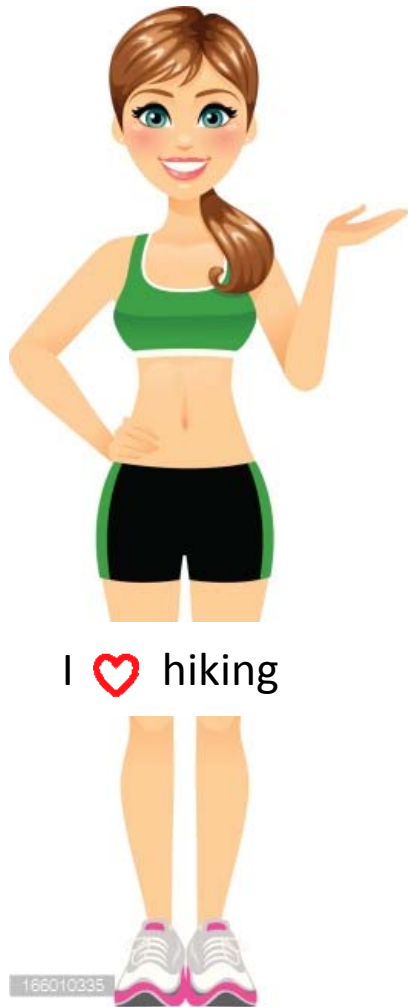
### TEST FIT WITH YOUR ATHLETIC MOTION

- Imitate the intended activity to check fit and support.

DIFFERENCE	1"	2"	3"	4"	5"
CUP SIZE	A	B	C	D	DD

low to high





PRINTS X COLORS

COLORS X COLORS

ELASTICS (printed, lettering, reflective)

MESHES X COLORS

MESHES X PRINTS

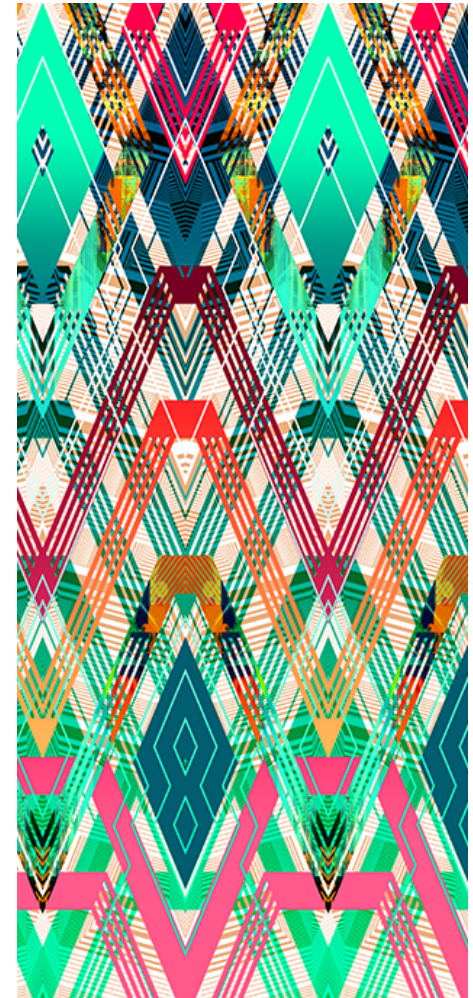
TEXTURES X PRINTS

TEXTURES X TEXTURES

PRINTS X PRINTS

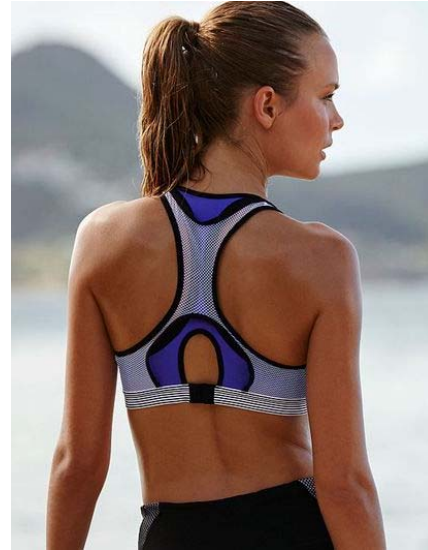
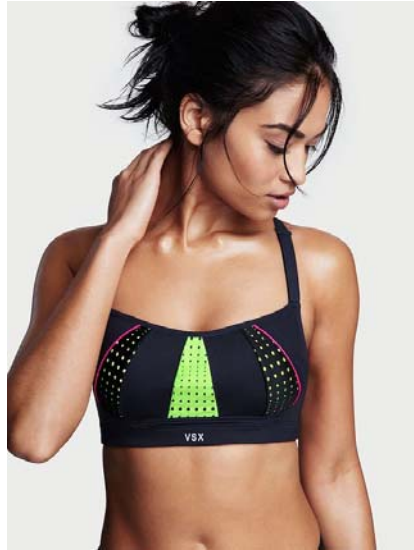
OVERLAPS

TAPES (colors, reflective)



trends





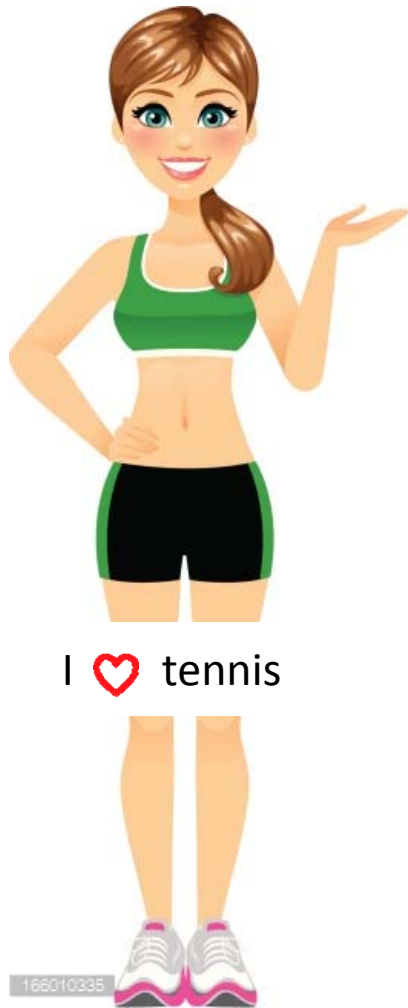
trends





trends

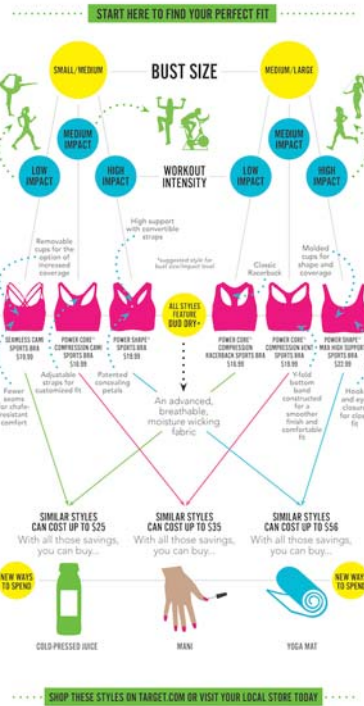




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### FIND YOUR SPORTS BRA BESTIE

WORKING OUT NEVER LOOKED SO GOOD WITH C9 CHAMPION'S RE-INVENTED PERFORMANCE STYLES



SHOP THESE STYLES ON TARGET.COM OR VISIT YOUR LOCAL STORE TODAY



### FIND THE RIGHT SUPPORT

SPORTS BRAS

#### know how to measure

knowing your bra size is the most important first step in finding your perfect sports bra. get a tape measure and follow the easy steps below.

1. wrap a tape measure around the band underneath your bust. write down the measurement in inches. if it is an odd number, then add 5. if it is an even number, then add 4. (for example 27+5=32)



2. for your cup size, wrap the tape measure around the fullest part of your bust and write down the measurement in inches.



3. subtract your band measurement from your cup measurement and use the table to the right to find your cup size. (for example, 34 - 32 = 2. your size is 32b)

	XS	S	M	L	XL
Yoga	Light Support	Light Support	Light Support	Light Support	Light Support
Pilates	Light Support	Light Support	Light Support	Medium Support	Medium Support
Barre	Light Support	Light Support	Light Support	Medium Support	Medium Support
Cross Training	Light Support	Light Support	Light Support	High Support	High Support
Cycling	Light Support	Light Support	Light Support	High Support	High Support
Boot-Camp Classes	Light Support	Light Support	Light Support	High Support	High Support
Team Sports	Light Support	Light Support	Light Support	High Support	High Support
Running	Light Support	Light Support	Light Support	High Support	High Support
High-Intensity Cardio	Light Support	Light Support	Light Support	High Support	High Support
Contact Sports	Light Support	Light Support	Light Support	High Support	High Support

difference	1"	2"	3"	4"	5"
cup size	a	b	c	d	dd

# communications





I ❤️ innovation



DON'T  
STOP  
UNTIL  
YOU'RE  
PROUD

RESEARCH

EDUCATE

COMMUNICATE



I ❤️ innovation



ffb



THANK YOU!



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SPORTSCOUTURE.WORDPRESS.COM



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