

## Body Rocket Fit Use Case Videos Highlights

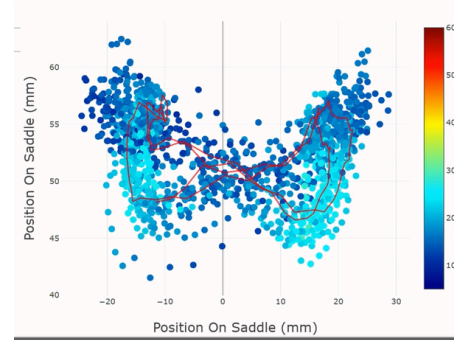
### Overall observations:

High power data tends to improve imbalance/asymmetry issues

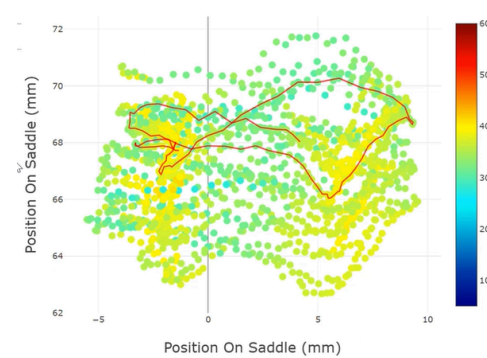
Moving a saddle forward often results in the rider being in the same position, but using a different part of the saddle

### Patterns to talk about:

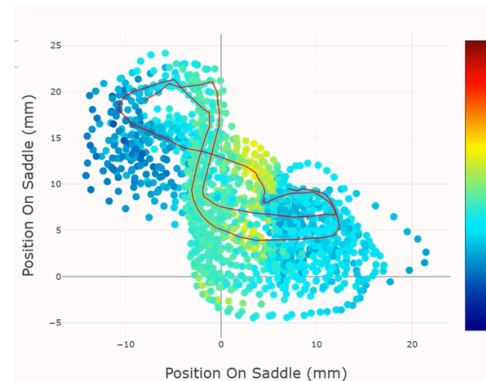
#### Butterfly (ideal) – Good symmetry and pelvic rotation



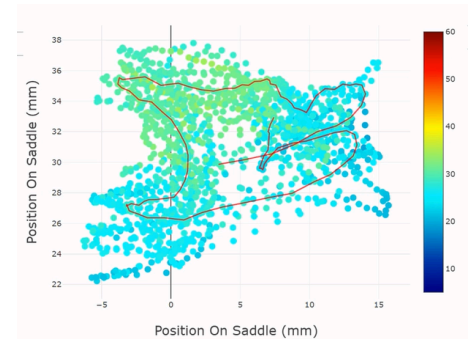
#### Restricted rotation – One side has low pelvic rotation – often associated with a L/R imbalance



#### Figure Eight – Associated with a shifted pelvis (Pelvic Orientation). Good pelvic rotation on each side but misaligned



#### Square – Excessive pelvic rocking (poor Pelvic Stability). Rider transitions l->r and r->l at different points on the saddle



### Definitions:

**Pelvic Stability** – magnitude of movement along the x axis (side to side rocking)

**Pelvic rotation** – magnitude of movement along the y axis (fore-aft movement during ½ of pedal stroke (1 wing of the butterfly))

**Pelvic loop** – The path taken by the center of mass as the rider moves through one pedal cycle. It is a plot of x (pelvic stability) and y (pelvic rotation) axis of a pelvic stability plot. This can form a butterfly or any of the other shapes shown above

The benefit of looking at the pelvic loop is that there are many ways a rider can generate the same pelvic stability and pelvic rotation values. Being able to see the path being taken helps a fitter understand the underlying mechanisms, and better treat the client.

**Pelvic Orientation** - as viewed from above a twist in the pelvis that results in one side sitting further forward than the other on the saddle

**Saddle Imbalance** - The % (or possibly x measurement in mm) imbalance between right and left weight distribution. If this is due to a rider sliding up against one side of the saddle nose it's possible that a wider nose will help rebalance the rider

### **Individual Videos**

**Eric** – Track cyclist, old injury of lower back that caused right hip to drop & resulted in knee pain. Has managed this for 10+ years with physio prescribed core strengthening exercises. He generally has a 55% left leg power balance.

**Video:**

<https://youtu.be/IYsmk7JcZOs>

**Overall:**

Left side of pelvis has very little movement in most positions.

**Observations:**

1. Right side pelvic loop was generally 6-8mm high (normal)
2. Very low pelvic rocking, possibly due to core strengthening exercises
3. Switch to Zoncolan removed L/R imbalance, reduced already low pelvic rocking
4. On Zoncolan left side of pelvis freed up, matching the 6-8mm of movement seen on the right side

**Conor** – Off road cyclist and runner. No cycling injuries but tends to drop his hips towards the impacting foot while running (?? – need to ask Conor for clarification)

**Video:**

<https://youtu.be/1CFqjpdwTaM>

**Overall:**

Generally centered and symmetrical. Notable for having 20-25mm of pelvic rocking regardless of saddle location or type. This is on the high side of normal. 10-12mm high pelvic loops. Also on the high side of normal.

**Observations:**

1. Slight right imbalance on San Marco saddle

**Matt** – recreational triathlete with a debilitating golf problem. No other known physical impediments.

**Video:**

<https://youtu.be/fymcyFFhtTE>

**Overall:**

Rotated pelvis that displaces left pelvic loop roughly 6-10mm further forward than right loop. In aggressive positions this results in his left thigh hitting his chest. Carries

a 3-5mm imbalance, favouring the right side. As a result, left side of pelvis has restricted movement.

**Observations:**

1. Twin-nosed ISM acts to partially correct rotated pelvis, but not left/right imbalance
2. With ISM saddle, pelvic loop becomes more of a pelvic square. Right -> Left cross occurs 10mm back from Left -> Right cross