



Breaking For Gold -

Understanding the Physiology Demands Required For Breakers

Reina Teh, March 2022

In the past articles [here](#) and [here](#), we have discussed about injury occurrence, how these injuries happen and introduced a method to keep street dancing and breaking safe for dancers. As we are approaching 2024, where breaking is set to be a competing sport in the Olympic Games, it is time we learn more about this art form by understanding the physiological demands and utilising these understanding and incorporating them into a training plan.

But first, let's learn more about this art form in its competitive state.

Types of Competition Format

There are many types of competition format available during a dance battle and these range from casual cyphers, movement-based battles (footwork, power moves etc), team battles (2 V 2, 3 V 3, 4 V 4) and solo battles. Each set of battle last for around 30 – 90 seconds depending on the rules and regulation of the event and each individual would have to perform for maximum 3 sets per round till the winner is identified (best out of 2) (3 x (30 to 90 seconds) = 90 to 270 seconds with about 30 to 90 seconds rest in between).

In the beginning of a typical physical competition, there will be

1. Audition round
2. Top 16
3. Top 8
4. Top 4
5. Finals (winners and ranking are decided here)

In the upcoming Olympic Games, the game will have a pre-determined top 16 male and female competitors (breakers will have to participate and rank in events / competition hosted by [World Dance Sport Federation](#) in order to qualify just like any other Olympic sport). These individuals will be battling in a 1 V 1 format for about 60 seconds long each set (best out of 2)



Jeremy Sim (Jeremiah)
 Photo credits: Jazpar Photography

(3 x 60 seconds = 180 seconds with 60 seconds rest in between). Judges evaluate breakers on the following criteria inclusive of musicality, personality/creativity (not considered a movement) along with a sophisticated digital scoring system “Trivium Value System” (said to be used in 2024 Olympic games as there was great success in the 2018 Youth Olympic Games) with technique, performativity and creativity holding 60% and the other 40% attributes to variety, musicality and personality²

Identifying Movements

There are many various movements in the world of breaking and to simplify this for the article, we can break it down into 8 major groups¹, which can then be broken down into many other dance vocabularies whereby one basic movement can be executed multiple ways. This is unlike in ballet where there is a unique name to each movement and is easily identifiable by all ballet dancers across the world.

1. [Top Rock](#)
2. [Down Rock / Go Downs](#)
3. [Footwork](#)
4. [Freezes](#)
5. [Transitions](#)
6. [Power moves](#)
7. [Tricks](#)
8. [Flips](#)

What Exactly do Breakers Need?

Understanding the physiology of breakdance

From the competition and movements highlighted above (all movements are hyperlinked, click on it to view the movements on YouTube), it is obvious that breakers require the following:

1. Strength

Drawing attention towards strength for upper extremities, core, and explosive movements (it is important to include plyometrics within training sessions). It is also important for breakers to cross train and train beyond their art form, for example including strength and conditioning, trying out other dance styles as it can help support dancers with preventing muscle imbalance, activating less used muscles, enhance agility, prevent injuries, and enhance performance. You can click [here](#) to learn more about cross training.



Jeremy Sim (Jeremiah)
Photo credits: Jazpar Photography

2. Stamina

Although 180 seconds with rest in between may sound like short duration, if one were to advance from Top 16 to perhaps the Top 4 that would mean 540 seconds with rest in between all those intense activities. A study conducted in 2018 tells us that breakers (male) had significantly higher VO₂ Max (cardiorespiratory requirements) in comparison to other dance genres⁶. This tells us that breakers require much more effort in order to perform hence the large amount of stamina.

3. Agility

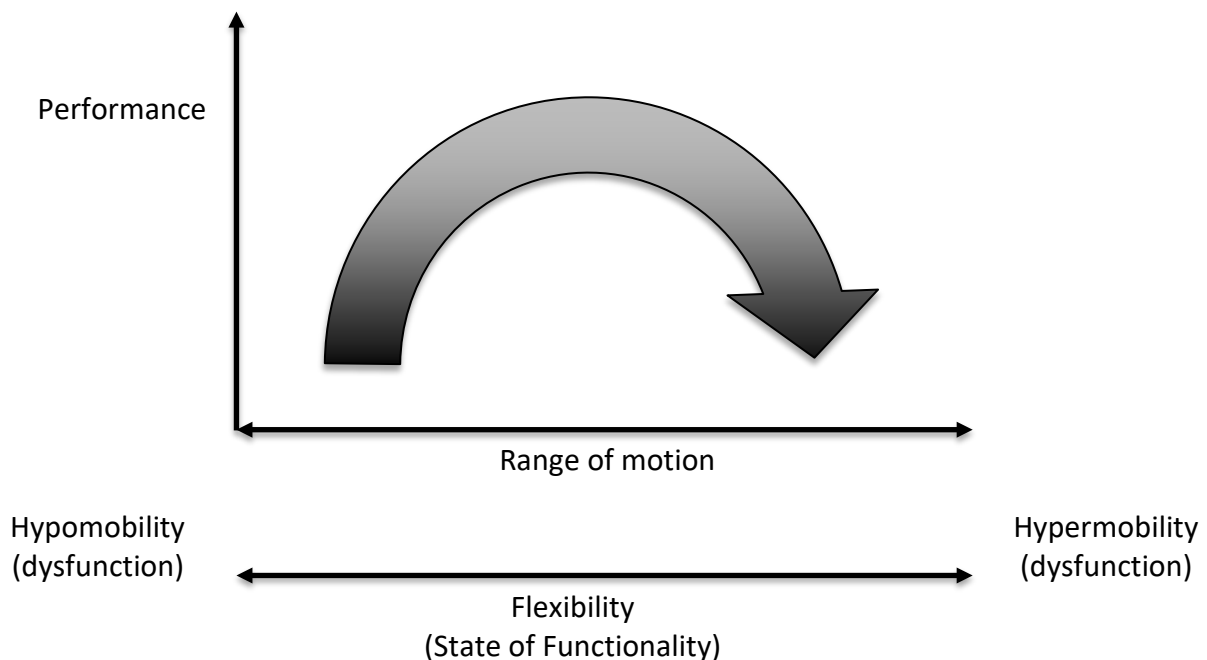
This is an important skill for most breakers as the dance form requires them to move from up to down and left to right (weight changes) quickly without showing signs of fatigue (another point to why stamina is important). So how do you work on agility?

Strength, flexibility and agility work hand in hand, working on short burst energy is something that one might need to take note.

4. Flexibility / Range of Motion (ROM)

Whilst it is important to understand that increasing ROM is beneficial for preventing injuries such as muscle strains³ and at the same time enhance performance by producing greater forces⁷. But it is more important to know that functional flexibility (a good combination of strength and flexibility) is essential to achieving performance enhancement capabilities (refer to Figure 1 for better visualisation).

Figure 1. State of Functional Flexibility⁵



5. Strong and varied movement vocabulary / Skills / Creativity

Possessing a strong and varied movement vocabulary comes hand in hand with the ability to execute. Having a strong movement vocabulary allows one to surpass his/her competitor by performing movements that is different and perhaps unique to them, hence having the upper hand of the competition. This means that breakers often need to explore (through causal cyphers) and create movements expanding their movement vocabulary. As mentioned in strength, cross training is important for injury

prevention and performance enhancement however cross training with other dance genres can also help with building movement vocabularies by honing the skills and drawing inspiration from them!

“Breaking is a competitive display of physical and imaginative prowess, a highly codified dance form that in its early stages serves as an arena for both battles and artistic invention that allowed for cracking open code to flaunt personal inventiveness” – Banes, 2004

In Conclusion

Breakers can consider implementing the following into their regular training to keep up with the demands required for the art form.

1. Strength and Conditioning
2. Increasing Range of Motion (if he/she does not have adequate ROM and often feels pain when executing movements that requires large amount of flexibility.)
3. Plyometric Training
4. Cross Training (with dance of other genre besides Hip-Hop)

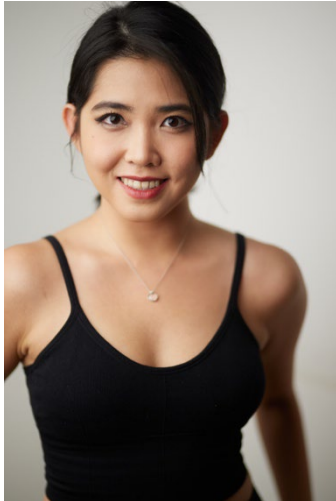


Sufian / Flurry

Photo credits: *SCAPE Radikal Forze Jam

Beyond that, it is highly important for us to stress the importance of safe dance practice and progression while training in order to extend the longevity of one’s journey in breaking.

End.



Graduated with an MSc in Dance Science from Trinity Laban Conservatoire of Music and Dance, Reina is currently writes and coordinate the *SCAPEdance Science Programme she hopes to share the knowledge and concept of dance science in Singapore.

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