

Swathi Satish, Bharathanatyam dancer & dance educator  
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## Common injuries identified in Indian Classical Dancers

Reina Teh, June 2021

7 out of 8 South Asian dance or better known as Indian traditional dance is practiced here in Singapore<sup>3</sup> namely Bharatanatyam, Mohiniattam, Kathak, Kathakali, Kuchipudi, Odissi and Manipuri. Today, there are multiple Indian dance companies here in Singapore where they educate local youths about the traditional dance forms through extracurricular activities in schools to performing at festival.

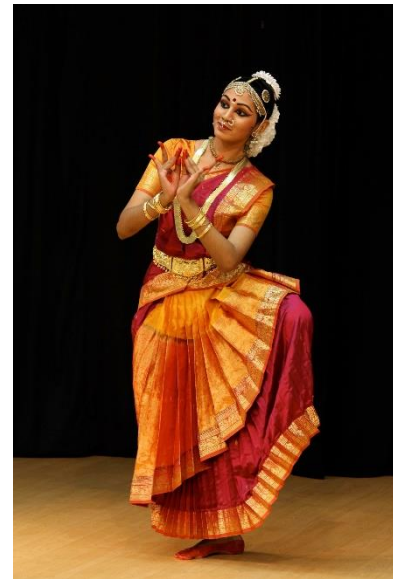
Over the years, we have gotten an opportunity to understand more about the traditional art form but, how much understanding do we have regards to the physical demands required as well as injury occurrence on traditional Indian dancers? In this article, we will be addressing injury patterns, common injury sites identified, perceived caused of injury as well as how to work around these injuries.

- **Bharatanatyam** (originated from the temples and courts of southern India, this dance form draws focus on lines, sharpness in movement and strength. It is also the first dance style to be institutionalised)

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- **Kathak** (originated from northern India Rajasthan / Uttar Pradesh is a dance form that consist of footwork, spins or finger and wrist movements as well as storytelling)
- **Kathakali** (originated from Kerala, this traditional art form focuses on the art of storytelling accompanied with hands and facial gestures as well as movements that is vigorous and requires lots of strength. Paired with long duration performances, this traditional art form is physically demanding)
- **Kuchipudi** (originated from Andhra Pradesh, is a dance form that involves lots of footwork, hand gestures as well as eye and face movements. Kuchipudi also shares certain similar characteristics with the other dance forms such as Bharatanatyam)
- **Odissi** (originated from Odisha is a dance form that embodies the foundational stance 'Chauka' (basic of odissi stance)it also focuses on foot work as well as the dance motif called 'Bhangas' (symmetrical body bends resembling an 'S curve').
- **Manipuri** (originate from Manipur is a classical and folk dance where it can be seen during festivals and rites of passage such as weddings. This dance style can also be distinctively identified between male (acrobatic, lots of jumps and squat) and female (slow and graceful) performer)
- **Mohiniyattam** (originated from the southwestern part of India Kerala, it is characterised by its graceful stance similar to Kathakali but performed slower)
- **Sattriya** (recently recognised as a classical dance form, this dance style is deeply rooted from tribal and traditional dance form. This dance form consists of storytelling, footwork, hand gestures and movement similar to warrior dance style)



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## Injury patterns and common injuries

Multiple studies <sup>1,5,8</sup> has showed that the common injuries identified in Indian traditional dances are mainly located around the lower extremity **Hip, Knee, Shin & Ankle** as well as the **Neck, Shoulder** and **Lower back pain**.

An ankle and foot study on Bharathanatyam dancers have also identified that 70% of bharathanatyam dancers has **pes planus** (flat foot) and 58% of dancers has a combination of flat and pronated feet <sup>9</sup>. See diagram 1 and 2 for examples

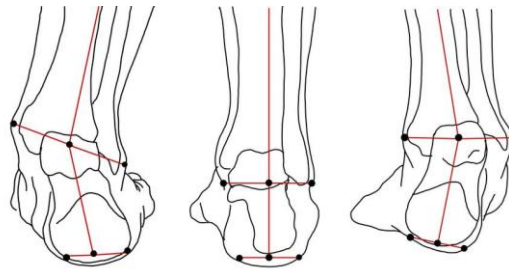


Diagram 1. Pronation, Normal & Supination of feet



Diagram 2. Foot imprint of Flat foot, Normal & High Arch

## Perceived cause of injuries and how to prevent them

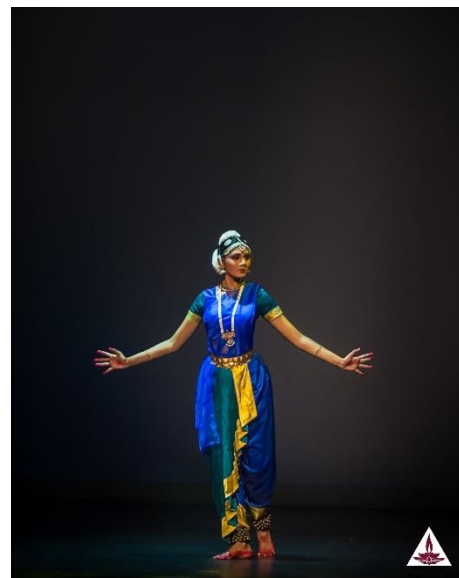
So, what do we think that might have led to injuries in these specific landmarks? Studies tells us that injuries occurred can be attributed to

- **Lack of warm up, cool down and stretch after practice**

Through literature reviews <sup>1,4,6</sup>, this is observed across multiple dance genres as these activities are often overlooked and/or underutilised. So how does the lack of warm up, cool down and stretch after class can contribute to potential injuries and how can we overcome them? Read all about the importance of warm up and cool down in our previous article [here](#).

- **The position of aramandi (half squat similar to demi plie as seen in Ballet) and muzhumandi (full squat, similar to grand plie as seen in Ballet) <sup>7</sup>**

Patellar tendonitis (inflammation of knee) Patellar chondromalacia (softening of cartilage under the kneecap) is a common injury identified in both Indian traditional and ballet dancers. This is due to the half and/or full squat position that they are constantly placed in where dancers are required to stand with their knees, feet, and ankles externally rotated<sup>5</sup>. When performed repetitively without proper alignment



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and appropriate muscular strength, this may expose the dancers to knees and ankles injury. Read more about turning out and how to safely achieve turnout in dance [here](#).

- **Improper dance technique** <sup>7,9</sup>

Dance technique is an important aspect of any dance genre. When proper dance technique is not emphasised, injuries tends to occur from performing movements and poses in an unsafe and risky manner. This can often be attributed to



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1. The lack of basic and intensive technique training to supplement dancers with building strength and stamina. This is especially troublesome when students attend dance class once or twice a week. Without the right motivation this may lead the students to focus on achieving the aesthetics instead of achieving proper dance technique.

2. Dance educators who are unable to point out or intervene wrong dance technique.

Injuries occurred due to lack of proper dance technique can be in forms of acute injuries (injury sustained from sudden fall or clash) obtained from example landing a jump incorrectly developing into chronic injuries (overused injury) especially if the movement is to be performed continuously without corrections. Hence, it is important for dance educators to be able to

1. Identify and/or intervene wrong dance technique.
2. Emphasise on the importance of basics and encourage safe dance technique.
3. Have better understanding of the human anatomy in order to better understand the student's capabilities and limitation.

Proper dance technique can also be attained when coupled with implementing warm up, cool down, stretch and strength and conditioning to supplement their dance training to reduce injury risk.

- **Stamping technique and stamping of feet on hard surface** <sup>9</sup>

Most dance genre such as ballet, jazz, and hip hop, utilise specific types of shoes while practicing. However, in Indian traditional dance, dancers are required to perform and practice barefooted on hard concrete surfaces. A study suggested that the repetitive stamping of feet in a wrong position may have a negative impact on ankles, knees,

lower back as well as deviation of foot posture i.e. flat foot and pronated foot (refer to diagram 1 and 2). So how can we navigate the negative impact caused by stamping the floor while retaining the traditional dance essence?

1. Stamping technique

Having a good stamping technique by striking from the metatarsal (front of the feet) as compared to striking from the heels can help prevent injuries in the lower extremities<sup>7</sup>.

2. Flooring

Traditional dance studios can also potentially look into alternative flooring such as a vinyl which is often referred to as a semi-sprung floor<sup>2</sup>. You can read more about the importance of installing proper flooring as well as how does it protect the dancers [here](#) in our previous article.

## Conclusion

In comparison to western dance forms, the scientific findings, and studies available in Indian traditional dances is rather limited and more than often available in another language. Despite the lack of resources, it does not mean that the knowledge, research, and information available in other dance genres are not transferable / applicable.

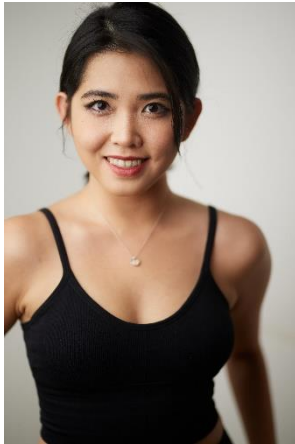
Nevertheless, it is important for us to start looking and understanding more about these traditional dances. This is so that we are able to assist traditional dancers in areas such as performance enhancement, injury prevention and much more without compensating the traditional aspect of training or performance methodology.

In addition, youths interested in traditional art form are rather hard to come by. Hence, it is crucial for dance educators to support students to achieve their goals by understanding their physiological capabilities and limitations in order to keep their interest in tradition art form and prevent injuries.

Traditional Indian dancers can also check out the South Asian Dance Medicine Science Association (SADMSA) [here](#) for more readings that are written specifically for Indian traditional dance.

### *Acknowledgement:*

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Graduated with an MSc in Dance Science from Trinity Laban Conservatoire of Music and Dance, Reina is currently volunteering to write for the programme \*SCAPEdance Science as she hopes to share the knowledge and concept of dance science in Singapore. Reina was also a graduate from LASALLE College of the Arts, Diploma in Dance and has experience in teaching adolescents, youth as well as adult in ballet and creative movement.

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