



Pre-Pointe' Evaluations

Ballet- conditioning and strengthening

Ballet is a sport of artistry and strength. It is a pure combination of motion and stability. There are many studios that focus on progression of elements rather than basic knowledge of positioning and technical performance. Technical performance includes making sure that proper positions that are reached, whether arabesque with focus on back and leg, or simple turn out, focusing on hip, knee and ankle alignment. Unfortunately, without flexibility training as well as core stability, advanced ballet cannot be performed properly, and technique will only continue to diminish throughout the years due to bad habits and a poor base of support.

When progressing the dancer from basic barre' work to the process of pointe', there are many concerns to address.

Why are we concerned about Pointe' too early

It seems as if there is a split between goals and energy focused on advancing the dancer. From a parent perspective, health and longevity in the sport should be the main focus, which would lead the instructor and medical advisor to understand that the dancer rises to pointe' once the body is ready. Unfortunately, some parents live vicariously through their children and want to be able to claim that their daughter is "good enough" to go en pointe'. Sadly, these early risers often are plagued with injuries that disallow continuation of dancing, or interrupt the technical development of the dancer. From an instructor's perspective, there is pressure from the parents to advance the child, and it takes a confident and well developed program to make sure that advancement happens only when ready. With local community competitiveness and word of mouth, some parents seem to value schools that have large amounts of children en pointe' and young at that. This is a poor motivating factor for studios to advance early, and should be shunned rather than revered.

Besides the common knowledge of sloppiness and poor technique as a result of early pointe', there are medical concerns that, if not curbed, will last a dance career and unfortunately the lifetime of the dancer.

How do we know she is ready?

Proper pre-pointe' evaluations need to be completed by a qualified health care professional. The public often believes that physicians are the best to ask, however, less than 2% of orthopedists and foot doctors are familiar with the requirements of dance, from a technical perspective or a physiological development. Lower than number when you think of how many physicians are specifically knowledgeable of adolescent bone and ligamentous development issues.

- **Age.** Research has been done for years, short term and long term studies, on injuries that dancers attain depending on years in dance, age starting pointe' and more. The cumulative intelligence of the dance medicine community has determined that younger than 11 is too high of a risk. Depending on which factors one deems as more important than the next, age can be a factor, or just a milestone to be reached. I have found some 12 year olds who meet all the requirements, and then some high school aged athletes who may think they are ready, but because of quality of instructor or body factors, are not. This is why it is very important to complete full evaluations.
- **Bone Maturity.** Although studies can give you an average, each dancer matures at a different rate- from estrogen production, to bone formation, growth plate closure, body style, Q-angle development, and more. A combination of communication with medical advisor and instructors, dance observation, strength testing, flexibility assessment and x-ray films is the best way to determine alignment and readiness
- **Flexibility.** If the dancer cannot rise to full pointe' position, then the line of gravity is not proper. When bones sit properly on top of one another, weight bearing is dispersed with the least amount of demand of muscles to stabilize the joint. If the dance cannot properly "pointe'", or plantar flex the foot and ankle, then the muscles in the back of the calf, such as the gastroc, soleus, posterior tib, peroneals, and the Achilles tendon, will be predisposed to overuse injuries.
- **Strength.** The dancer needs to have the proper strength not only in the ankle, but also the intrinsic musculature of the foot. Strength needs to be measured all the way up the kinetic chain to the high ankle, knee, hip, spine and abdominals. A combination of coordinated strength from the belly button down is what created the highest predisposition to success due to core stability, hip positioning, knee strength to maintain center of gravity alignment and create the least amount of muscle strain on the ankle and foot.
- **Balance.** Balance testing is very important for readiness as well as setting the athlete up for the highest amount of success with training. When transitioning from flat foot to demi-pointe', one goes from 100% foot effacement with ground to 25-30%. When transitioning from demi' to full, this decreases again by more than 50%. It is of utmost importance that balance is worked on from the day that a dancer starts, even if they are only 3, to establish muscle communication, special awareness, development of small foot and ankle stability muscles and more. This can be as simple as standing on one foot, to advanced platforms for variable stability challenges.
- **Body Awareness.** Does the dancer know how to move fluidly? Is there a joint separation that can take place (keep the core and knee stable while allowing changes in the ankle?) Can the dance pirouette on releve', concentrating on spine, hip and knee positioning without losing focus on static releve' position in the foot and ankle? These are necessary skills that the athlete must possess in order to be able to focus on arm, spine, and leg motion while en pointe'. A lack of focus, or subconscious maintenance of positioning, will lead the dancer to a predisposition to injury.

What is the process for the evaluation?

The medical advisor will meet with the staff to describe the process. Dancers already in prep classes will be evaluated individually or as a group, depending on the numbers. Evaluations can be done in quick/mini, standard, or extended. Extended evaluations can take up to 2 hours, quick

can be done in as little as 10-15 minutes, but is not as all-encompassing or accurate by any means. Sometimes, studios want to simply get a gauge of a group, and then select individuals that need further assessment when the time to actually rise to point' comes closer. Measurements are taken for flexibility with a goniometer, to measure angles. Strength is measured by manual muscle testing, function, and sometimes using equipment. Balance is checked single leg standing, various surfaces, eyes open and closed (to mimic function/focus). Results will be shared with dance studio/instructors, and the families. This can either be a determinant of progression, or a baseline, which is extremely helpful in repeat testing, to check progress and success of pre-pointe' programs.

Physician Involvement

An MD may be called in to the process to determine ankle health or foot health if there are concerns or pains. Films can be taken to view toe bone alignment, including valgus deformities, bunion development, and ankle range limitations that may be from soft tissue or bone abnormalities. Growth plate relative closure can also be determined. When rising to point', pains often occur in the first year including Blisters, toe nail issues, great toe joint inflammation, calf pain, Achilles tendon irritation, heel issues where calf attaches, ankle sprains if loss of balance occurs, plantar fascia irritation, and more. If this occurs, contacting your medical advisor first, as long as it is not an emergency, is the best option. They can review your pre-pointe' evaluation, note the issues, as well as check for trends. Trends can be found if the athlete was cleared for pointe' but still was struggling with plantar flexion range issues, and now has anterior ankle pain- this is to be expected, and now we may know that range of motion is more of an issue than previously anticipated.

As well, bone age can be determined with films, too. For instance, some athletes, due to poor development, nutrition, hormonal imbalance, and other factors, may not develop as quickly as they age. This is important in the feasibility of pointe' dance, making sure that the athlete's bones can handle the new positions of stress.



Summary

The most important factors in dance success are 1) quality of dance instruction, 2) treatment of the dancer as an individual, and 3) the communication between, the dancer, studio, medical advisory and dancer's family. Keeping all of this in mind, no good genes or strong body part can replace good, quality and technical education. Above all else, unmeasured, is patience. The body is a machine, which is performing an art. Time, fine turning, and development will allow a dancer to be the most beautiful they can be, and the healthiest. Best wishes in your development, and remember, you only get one body, one spine, two feet, ten toes, and one chance... make it a good one.