Compression/Suspension Therapy for Dancers

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Compression/Suspension Therapy for Dancers evolved out of my many years of training as a professional dancer andworking with dancers and athletes as a movement and massage therapist. This technique is part of a broad approach to movement trainingand bodywork which utilizes all the systems of the body: skeletal, muscular, organ, endocrine, nervous, fluids. For this articleI will focus primarily on the skeletal, muscular, and organ systems as they relate to movement patterning.

My underlying premise is: Prevalent movement patterns that are part of the training of many dancers, whether "release"-basedor reflecting more traditional modern or ballet influences, can lead to stress and injury, especially in the older dancer, if notreeducated.

These movement patterns are:

- Hypermobility of the joints with compromised ligamentous support.
- Lack of organ support and tone which contributes to musculoskeletal stress.
- A preference for extension over flexion in the supporting structures of the spine, organs, and muscles.
- The predominance of "reach patterns" without the underlying support of the "push patterns" in movement performance.

These inefficient movement habits can be repatterned by employing a combination of hands-on work and movement training.

My work draws primarily on the educational principles of Body-Mind Centering (R), developed by Bonnie Bainbridge Cohen, with support from variousmassage therapy and movement techniques such as acupressure and Bartenieff Fundamentals(tm). I have synthesized these disciplines with my ownunderstanding of how to develop the dancer's body for maximum expression (choice), efficiency, and longevity.

Wendell Beavers in his *Seeds and Branches*, St. Mark's Church, NYC, 1998. Photo by Paula Cort

In the dancer's desire to communicate with large, full movements that involve stretching and reaching the body and its limbs beyond its kinesphere support is often lost in the systems of the body that ground those movements, give them weight, and create a deeper connectedness to the earth.It's as if in our yearning to express our vision and connect with everything that is "heavenly" and "up there," our bodieshave forgotten that we need ground support.

As babies we crawled upon the earth and eventually with sheer determination pushed ourselves ever higher. We pushed to reach beyond our immediatesurroundings in order to explore and receive feedback from our world. This movement progression illustrates the necessity of the early patternsof grounding as a support for all movement that reaches into space and beyond. In this paper I explore the relationship of the grounding elementssuch as compression, flexion, and the push patterns to the patterns of suspension, extension, and reach that connect us to space. As dancersit is essential that we integrate these early developmental patterns and allow these fundamental ways of moving to support powerful and long-lastingdancing.

COMPRESSION THERAPY FOR THE JOINTS

When I was performing, teaching, and training as a dancer, I never left the house without first performing my daily routine ofdeep, passive stretching. These sessions, usually about an hour and a half, were performedfirst thing in the morning. I would not have dreamed of taking class without first having gone through this routine. I once askeda well-known movement analyst if she thought this ritual was necessary to "warm-up," and she said that if I thought itwas, then it probably was! At the time I agreed, but I believe it contributed to chronic sciatica and other joint problems thatI suffered in the ensuing years. Many of my colleagues have also accrued an impressive array of joint-related complaints such asdisc problems, hip replacements, arthritis, etc. I certainly don't blame overstretching as the cause of all of these complaints but there is a relationship between the laxity of the ligaments that can come with continued deep stretching and the lack of integrityin the joints.

In my own dance training, there was in fact an overemphasis on "reaching" and "extending." Many dancers of my generationwere "over-reachers." More recently in my practice, I have been treating the next generation of "over-releasers," encouragedby such forms as Contact Improvisation and Release Technique. Where we stretched, these younger dancers "let go," sometimes allowingweight to fall into the joints and, in its extreme, leading to the same lack of joint stability.

In response to this, I have been working with techniques to restore a sense of energetic connection within joints that have becomedisconnected through patterns of overextension or imbalanced overuse. Joint compression can begin to restore the tone of the ligaments energize the proprioceptors for joint clarity and awareness, and allow the free flow ofenergy to pass sequentially through the various joints, thus distributing the workload more equally throughout the body.

Wendell Beavers in his *Freeing the Dura*, 1997. Photo by Carl Nardiello

Here are some examples of how this works:

When a joint becomes hyperextended or "locked," it prevents smooth sequencing between all the other joints in the chain of movementactivity. For instance, if I hyperextend and "lock" my elbow joint, the result is more stress at my wrist and shoulder since the elbowjoint no longer actively supports the joints above and below. There is a sense that the energy "stops" and doesn't flow (sequence)in a balanced way from wrist to elbow to shoulder to ribs, and eventually through the entire body. Hyperextension also distorts the angle ofcompression at the joint so that all the other joints end up compensating for that distortion.

Dancers in particular tend to hyperextend at the elbows and the knees in their effort to fully extend the limbs. But these "bridge"joints between the distal and proximal ends of the limbs need to be free to respond to the feedback they get from the distal end (such as thewrist or ankle, fingers or toes) or to a proximal initiation (shoulder or hip). Locking or stopping the energy at this midpoint or bridge jointprevents clarity of movement initiation and energy flow through the whole limb and torso as movement is sequenced and carried throughout thebody.

If one restores a proprioceptive connection through compression while inhibiting hyperextension at the joint, the result is increased rangeof motion, release of stress at the compensating joints, and a more efficient pattern of movement.

Because ligaments connect bone to bone, when we use manual compression at the joints, we are in effect working with the ligaments. When compressionis used at a joint, the ligaments are put on slack, allowing them to release, reorganize, and regain some of their energetic tone. Contraryto what traditional therapies suggest, I believe that ligaments can be retoned and healed, by

energetically connecting them end to end. Althoughthese retoning techniques have not been subjected to scientific study, my own experience of working with dancers whose ligaments have been stretchedto the maximum level is that compression at the joints brings a sense of relief as the ligaments become more actively engaged in supportingthe joints. When the joints are more actively supported, the dancer often feels a lessening of muscular tension in the large muscle groups.The large muscles no longer have to substitute for the role of the ligaments (holding the bones together) and they are free to do what theywere made to do… move the body through space.

COMPRESSION AND SUSPENSION SUPPORT IN THE BODY

A balance of compressive and suspensive forces in the body are necessary components of efficient, connected movement.

Wendell Beavers in his *Freeing the Dura*, 1997. Photo by Carl Nardiello

Although we have been discussing compression chiefly at the joint level, compressive forces play a much broader role throughout the body. Assoon as we are born from the weightless, aquatic environment of the womb, we must make an active relationship with the forces of gravity asthey affect our body. To paraphrase Bonnie Bainbridge Cohen: The infant bonds first to the earth and then to other human beings. This firstexperience of the forces of compression via gravity is the basis for grounding in the body and the way we eventually become grounded in ourverticality. As Ms. Cohen further states in her book Sensing, Feeling, and Action: “On the basis of this bonding with gravity/Earth, wecan then leave it.” So developmentally, compression precedes suspension, or we could say, compression supports the suspensive forces. Experientiallythough, we never leave behind our relationship to the earth. For every beautifully extended, suspended limb there is a grounding element inthe body acting as a counter-support to the extension.

By working with the basic reflexes and developmental patterns to reawaken these initial, more primitive responses to gravity, wetap into a primary source of support for more effortless suspension.

ORGAN TONE AS A BALANCE OF COMPRESSION AND SUSPENSION FORCES IN THE BODY

Tone is a word we tend to associate with the general resting state of a muscle. If a muscle has well-balanced tone it can fully condense andlengthen, expressing the readiness of the muscle to respond and relate to the body’s inner and outer environment. We might be less familiarwith tone as an expression of the resting state of our vital organs. The soft tissue of the heart, lungs, and internal viscera helps supportour musculoskeletal system from the inside out, giving volume, fullness, and tremendous vitality to our movement expression. Developmentally organs are toned and strengthened through the compressive forces of gravity. As the organs yield to gravity, this primary organ tone is developed.Suspension from gravity and support of the organs are a natural result of this initial compression.

When I work with dancers I use my hands to apply a gentle compressive force to the organs. If I am concentrating on the lower body, underneaththe hard sheath of abdominal muscles, I will often find the intestines and reproductive organs lacking in vitality and tone or tightly contractedand

indistinguishable from the hard-ness of the muscle tissue. Dancers are so used to bypassing the organs in the pursuit of muscle strengththat locating, feeling, and condensing the soft tissue has a powerful effect on enlivening the dancer's sense of deep, effortless core support.

The first step to organ support, as with the joints, is for the dancer to gain sensation of their organs. One of the techniques I use is tosupport the limbs and to alternately move them towards and away from the torso (compressing into the organs, and lengthening out with gentletraction) in a rhythmic, pulsating motion. As the organs become toned through this gentle stimulation of compression and traction, they becomemore actively engaged. They begin to support our structure in the same way that the pillars of a bridge support the bridge. The bridge itselfis the suspension support while the pillars are an example of compressive support. For a suspension bridge the balance of these two interdependent supporting forces provides maximum stability. For the body, the organs interact with our skeletal container (ribs and pelvis) by adjusting shifting, compressing, and suspending in response to the movement of our entire body. This provides maximum support, moment to moment, as themoving body seeks to maintain a balanced state. At the same time, we avoid the rigidity that results from simply gripping our "insides"as we search for equilibrium.

Wendell Beavers in his *Seeds and Branches*, St. Mark's Church, NYC, 1998. Photo by Paula Cort

A good example of organ support achieved through compression is to allow the push from the feet to sequence into the lower pelvic organs, stimulating activating, and toning them. This relationship of the legs into the soft tissue enhances a dynamic connection between our core (organs) andour periphery (the end of our limbs). With this play between center and fringe, we open up multiple possibilities of shifting movement support redistributing effort more evenly throughout the body, and enhancing feedback from the ground up. The sense of groundedness and support fromthe earth is based on the ability of the supporting surface (our feet when we are in vertical posture) to accept feedback. This feedback leadsto appropriate sequencing of support through the body which, in turn, leads to clear responses of pushing, pulling, yielding, or reaching. Withoutthis even sequence of compression through the ankles, knees, hips, and organs, there are gaps in this feedback mechanism which correspond togaps in our awareness and physical sensation. We become prone to injury because of a lack of integrity and connectedness between the jointsof the lower body and the soft tissue of the torso.

I find this pattern of bypassing support from the ground up most prevalent in dancers complaining of lower back or sacroiliac problems. Becauseof years of externally rotating the legs in the hip sockets (without concurrent internal rotation), the angle of compression of the femur bonesinto the joints tends to bypass compression to the, lower organs and instead compresses the sacroiliac joints or lumbar spine. Once the legsare repatterned so that the femoral condyles fit snugly and globally in the sockets, the angle of compression at these joints changes. Now thelegs can directly "converse" with the intestines, bladder, uterus, etc., massaging them through movement, expressing their "organic"qualities in the movement, and finding a buoyant support for the lower back and pelvic bowl. A new alignment is now possible which stimulatesand vitalizes our deepest core. Habitual patterns of external muscle tension can be released.

FLEXION AND EXTENSION

Related to the underlying tone of our muscle and organ systems are our fundamental movement patterns of flexion and extension. In my work withdancers I am often aware of a deep imbalance between these two primary patterns. Because the movement we try to reproduce as dancers is oftenperceived as going beyond one's kinesphere-extending, reaching, and visibly moving through space-we often unconsciously end up emphasizing patternsof extension in our dance practice. This can be at the expense of the flexion patterns which are part of the compressive element in the body.These patterns, such as pushing from any of the surfaces of the body that are in contact with the earth, are less visible but they offer a strongand grounded support for the extended limbs.

Whole body flexion or "physiological flexion," where the limbs fold in around the navel and the front of the body compresses, isthe developmental forerunner of whole body extension (where the limbs extend out from the navel and the back of the body condenses). This flexiondevelops in utero as the walls of the uterus begin to compress the developing fetus. At birth, a healthy infant has fully developed flexor toneand does not develop full extensor tone on the back of its body until about six months of age. Stimulating this flexor tone is the antidotefor stressed, unsupported limbs and spine. Dancers are all too familiar with the deeply ingrained pattern of lifting the chest and thrustingthe ribs forward. Sometimes there is additional hyperextension at the lumbar spine, such that organ tissue is compressed in the back and "fallsout" the front, forcing us to grip the external abdominals against the pull of gravity.

To remedy this, my work with dancers includes lots of stimulation to the flexors along the front of the body. In the beginning this is encouragedby spending time prone, on the belly, so that the sensory receptors in the skin, muscles, and organs in the front of the body are stimulatedby the texture, touch, and pressure of the supporting surface, in this case the ground or earth. Lying on the belly encourages flexor tone lying on the back encourages extensor tone. Usually if we lie face downward on our bellies, we image the body as being in a state of relaxationor perhaps sleep. In this case, we are reversing that image and allowing a sense of aliveness or wakefulness to penetrate our underlying surface deep into our organs. We could be said to be "listening" with the entire front surface of our body and hugging the earth like oneof those suction toys we place on car windows. If we allow that toning process to completely penetrate through to our organs, our limbs willbegin to curl around our navel and we find ourselves in a deeply flexed fetal posture, or physiological flexion. It's important to become familiarwith this whole body flexion as a way to heal the imbalance created by overuse and constant movement initiation by the extensors.

As we progress beyond whole body expressions of expanding and condensing and explore more complex patterns such as homologous (both arms orboth legs initiate), homolateral (same arm and leg initiate), and contralateral (opposite arm and leg initiate) movement, we experience howevery movement embodies the interdependence of flexion and extension. This continual sequencing, moment to moment, between flexion and extension between the core and periphery, provides us with a seemingly endless stream of movement and creativity. We never "run out of gas"as this cycling of energy through the body's systems continually renews and transforms us.

PUSH AND REACH

Just as flexion precedes extension, "push precedes reach" is a basic principle that is part of our developmental movement history.Having been born from a watery environment of lesser gravitational pull on the body, we adjust to the stronger sensation of gravity on all ourbodily systems by "yielding" and, in effect, being drawn towards the earth. Bonnie Cohen describes this as

bonding with our groundand establishing one's fundamental base of support. By yielding through our tissues and trusting the support of the earth, we can further respondby beginning to push away from this underlying support. By pushing from the part of the body that has fully yielded into gravity, we establishthe power to reach beyond our kinesphere into outer space.

Wendell Beavers in his *Research in a Morgue/Amsterdam*, 1997. Photo by Yet Henshen

Although a dancer should have the ability to effectively push from the undersurface of any part the body, there is probably no more important area to establish clear push patterns from, than the feet. The inability to directly initiate a push from the feet results in overworking the thighs and the hip flexors thus leading to chronic strain and fatigue of these large muscle groups. I have found that stimulating the reflex points on the soles of the feet through touch (so that flexion and extension of the legs is initiated from these points) begins to balance the entire musculature of the leg. The lower leg muscles become more defined and the thigh and hip flexors release their chronic tension.
When we push, our tissues literally condense, making us feel denser, heavier, and more substantial. This earthy quality exists on a continuum with the more rarified and spacious qualities of suspension. To sum up, compression relates to the development of flexor tone and flexion is connected with the ability to establish strong push patterns. In the same way, suspension relates to extension and to the establishment of the reach patterns.

When the dancer's "reach" beyond her kinesphere is fully supported by the strength, power, and "connectedness" of the pushpatterns; when flexion and extension behave as yin and yang; and when the compressive forces in the body equal the suspensive quality of reachinginto space, then the dancer is able to avoid strain and chronic injury and express the richness inherent in her body's natural movements.

CONCLUSION

In my work, I encourage dancers to reclaim their developmental heritage and learn to trust in their supporting surface. This means momentarilygiving up the pursuit of the external image of extension and flying for a less visible connection to our basic ground. Unless we feel supported how can we fully open and extend ourselves? As dancers, how can we fully connect to space and open our hearts to an audience without the fullsupport of the earth? For many dancers of all traditions, these principles are automatically integrated, expressed in the dancer's natural physicalability. But when chronic injury becomes a reality, we must be willing to work "from the ground up," reestablishing the fundamentalsof coordinated, healthy movement.

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NOTES

1 – Passive stretching: releasing one's body weight into gravity to stretch a muscle area (e.g., hanging the torso over the legswhile sitting, etc) without simultaneously countersupporting and stabilizing the muscles around the joints (and thereby protectingthe ligaments from overstretching).

2 – "The 'proprioceptors', located in joints, tendons, muscles, and ligaments record information about theposition of the body in space, its movement' and the relationships of body parts," (Wisdom of the Body Moving , LindaHartley.)

3 – See "Alphabet of Movement: Primitive Reflexes, Righting Reactions and Equilibrium Responses, Part 1 and2," by Bonnie Bainbridge Cohen, in CO 14:2 and 14:3, or also included in her book, Sensing Feeling and Action.

REFERENCES

Sensing, Feeling, and Action: The Experiential Anatomy of Body-Mind Centering. Bonnie Bainbridge Cohen. Northampton, MA-Contact Editions 1993. [Available thru **CQ**]

Wisdom of the Body Moving: An Introduction to Body-Mind Centering Linda Hartley. Berkeley, CA: North Atlantic Books, 1989 1995 [Availablethru **CQ**]