

# YogaPlay



With gratitude to NOK Foundation for its generous funding of this project,  
Bonnie Bainbridge Cohen for her spirit and her work in Body-Mind Centering®,  
and  
all the children who have helped to inspire and create this manual.

## Welcome to YogaPlay!

The mission of Whole Children, Inc. is to nourish the capabilities of children with special needs, to provide a valuable resource for their families, and to facilitate the children's inclusion in the community. Our emphasis in all classes is on finding and celebrating the children's individual strengths, having fun, and making and sustaining friendships.

The goal of the YogaPlay™ program is to provide parents, teachers and children with tools to increase a child's ability to understand and manage their own body, within an environment of respect and a belief in what is possible, and thereby open as many choices and opportunities as possible.

The YogaPlay™ manual is a structure to begin your explorations with yourself, with your students and with your children. We hope that you will enjoy the process together and find many opportunities awaiting you.

With respect,

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Director, Whole Children, Inc.

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## Who should use this manual

This manual is to be used by yoga teachers and therapists who have yoga movement teaching experience. This manual is a guide and is not meant as a yoga teaching manual. We recommend that instructors, therapists and family members using this manual with a child also have direct yoga instruction in a regular yoga class to inform the practice and Asana techniques used in the YogaPlay program.

We suggest that you practice each YogaPlay lesson prior to teaching it to children.

For more information and personal advise and/or review of this material, please see contact information at the back of the manual.

## Precautions

It is important to recognize the following factors when you are engaged in the YogaPlay program:

1. Make sure the space in which you are working is cleared of all potentially hazardous objects and is appropriately set up for whole-body movement activity.

2. It is important to respect a child's limitations and not to force a child into any movements, posture, or position that s/he cannot easily do on their own. We encourage gentle hands-on support and guidance. It is important to be engaged in constant dialog with the child throughout the process in order to support the child's relationship with his or her body.

3. For children with any special needs or medical condition (cerebral palsy, Down syndrome, seizure disorders, heart conditions, etc.), it is very important to seek medical advice before participating in inversions such as rolling, back bending, or feet over head. We recommend that you obtain a physician's release for participation in any movement activity, a signed participation waiver, and a history for each child (see resource section).



## Welcome and Overview

Welcome to the YogaPlay program at Whole Children, Inc. **The YogaPlay program encourages children to develop increased awareness of their bodies and their breath, thus moving them toward a harmonious relationship with themselves, others and their environment.**

Through the YogaPlay program, children will improve their flexibility, coordination, balance, strength and control. This includes addressing their sense of self and self-confidence, following directions, sequencing behavior, ability to focus and carrying through on a task from beginning to end. They will also learn social skills and methods of self-management and regulation.

A primary goal of the YogaPlay program is to **support self-management** in your child. Children who struggle with self-management have difficulty stopping an activity or transitioning between activities, have difficulty engaging in an activity, exhibit behavior that is inappropriate to the environment or social setting, can't judge personal space, have difficulty in crowds, or show a general over- or under- sensitivity to stimulation.

The tools we use to help children develop self-management are breath, movement, awareness, and play. Within these basic activities, we have designed and crafted a sequence of lessons, activities and movements that help build skills, awareness and control so that your child will be in the world in a balanced way.

It is our goal that the YogaPlay movements be used by children as tools or coping strategies to deal with self-regulation issues. The movements and postures (asanas) that comprise the YogaPlay sequence are based on select Body-Mind Centering® principles (see page 48) and yoga philosophy.



The foundation of the YogaPlay program is supported by Patanjali's Eight Limbs of Yoga: the Yamas, the Niyamas, Asana, Pranayama, Pratyahara, Dharana, Dhyana, and Samadhi.

Asanas, or traditional body postures, are utilized within each lesson in conjunction with pranayama (breath) to support the health and well-being of each child and teacher, therapist or parent. Yoga means union, and the practice of yoga supports the balance of body, mind and spirit to come together in oneness, peace and harmony.

# INTRODUCTION

## Summary of Yogic Principles and Social Skills Building

In Sanskrit, the word “yoga” means to unite, or to direct one’s attention to. In our modern day, we can experience a moment of union when we experience effortless while directing our attention to one activity, one goal. In this moment, the body, the mind and the spirit are aligned in one-pointed focus and a universal oneness or a feeling of wholeness is present. This is yoga.

There are eight principles of Yoga that were compiled by Sage Patanjali in the Yoga Sutras, the main Yogic text that supports the practice of Yoga.

**1. Yamas** are universal values or vows. They are as follows: Ahimsa (non-violence), Satya (honesty), Asteya (non-stealing), brahmacharya (movement in the direction of one’s truth), and Aparigraha (to be without greed). Taken together, these yamas can be summarized as living in harmony with oneself, the world, and other beings.

As a child comes to understand and explore this as a larger concept, he or she can articulate the experience of not being treated kindly and can begin to develop empathy. In a classroom or family setting, the rules of “no hitting” or other practical safety issues can be discussed in a larger context of “Do No Harm”, or “Be Kind”. These are abstract ideas and it is hard to make the leap from tangible rules to abstract ideas. By organizing around a framework of the larger concept and bringing that language into everyday discussion through storytelling or play, it is possible to directly teach ideas such as honesty, non-violence and sharing.

**2. Niyamas** are observances or individual practices. They are as follows: Saucha (purity), Santosha (contentment with what is), Tapas (devoted discipline), Svadhyaya (study that leads to knowledge of self), and Isvara pranidhana (living with awareness of universal/divine presence). The Niyamas can be

grouped into two main areas – accepting each moment with mindfulness and gratitude, and exercising restraint or discipline.

In practical application, we can bring consciousness to the ideas as well as the “rules” or routine. Instead of saying, “We say thank you here” as if it is a social grace or a rule, we can look for little opportunities to engage with the feeling of gratitude. For example, each time that a child is able to let go of a toy and shares with another child, it is an opportunity to bring awareness to the feeling of gratitude. Not just that “we say thank you”, but that we find the feeling of gratitude and name it. And we find the feeling of generosity, and name that.

At the same time, the concept of “discipline” can be experienced in the establishment of simple routines. For example, in YogaPlay the practice of setting up the area at the beginning and cleaning up when finished can be gently enforced and helps create the sense of safety or ease that comes with predictable routines and a sense of discipline.

**3. Asana** is the practice of posture. Sutra II.46: “Asana is a perfect firmness of body, steadiness of intelligence and benevolence of spirit.” (p. 149).

The practical application of this is in helping a child find joy in movement. For some children, moving can be difficult or even painful. Engaging with movement in a way that is about finding balance, ease and steadiness will help to encourage movement and will develop flexibility, strength, coordination and balance, internal and spatial awareness.

**4. Pranayama** is the practice of regulating the breath with attention and control.

In practical terms, it is about awareness and free movement of the breath. Pause and breathe. This is a vital opportunity for children to learn to use their

## INTRODUCTION

breath to help manage and control their nervous system or energy state. Teaching children to respect and interact with their breathing, to pause and breath before speaking or taking action, gives them tools to function in social settings.

**5. Pratyahara** is the drawing of the senses inward to still the mind.

This focuses on making conscious choices about what you attend to. Look, listen and touch. Introducing these concepts to children early, while their nervous systems are developing, will help them learn habits that they will carry into their adult lives. If children are encouraged and taught to interact with their senses in conscious and measured ways, they may be more able to make clear, conscious choices instead of acting out of habit or addiction.

When talking about watching television, for example, instead of a simple rule, “No TV!” or “one hour of TV,” have it be a dialogue about what senses they are using when watching television and what senses they are not using. If you watch TV for an hour, then what are you going to do afterward to engage your vestibular system (movement) or you sense of touch, or smell? When have you had enough sensation and it is time to rest quietly? When have you been too sedentary and it’s time to move? Let the rules be developed out of this discussion so that when they are enforced by the teacher or parent, there are constant opportunities to explain why the rules are important to follow and to help the children internalize the larger concept that will naturally lead to balanced choices.

**6. Dharana** is drawing of the mind inward to focus on one point. Concentration.

What are you paying attention to? So many times, we have to redirect our children who are walking in one direction and looking in another. Building the ability to concentrate in school, for example, begins with small little reminders, little opportunities to practice paying attention. This is a valuable meditation for anyone of any age. What are you paying at-

attention to? So often, even if a child knows the rules or the appropriate social skill for a given situation, she acts inappropriately because of a lack of focus or concentration. This isn’t about making rules or punishing for not following them. It’s about helping the child practice and work toward the ability to pay attention to the circumstance he is in.

**7. Dhyana** is meditation or resting your focus.

In a broader view, Dhyana is about taking quiet time alone. This is especially important in the world that children experience today. There is always something going on around them. Television stations run 24 hours, portable music devices are in every backpack, kids’ schedules are packed to overflowing with structured activities. This idea of taking, and enjoying, time alone to sit quietly and contemplate or rest internally is crucial to support all the other principles and to function in the world in a healthy way.



**8. Samadhi** is union/wholeness or oneness with the universe.

In a practical sense, this is about conveying to our children that we are all part of one universe, one perfectly imperfect creation. In this perfectly imperfect world, we can accept ourselves as we are, and can accept others as well.

# INTRODUCTION

The following table summarizes the yogic principles with very basic explanation and how it can be applied to social skill building through storytelling, role playing or other creative ways.

<b>Yogic Principle</b>	<b>Explanation</b>	<b>Practical Application to Social Skill Building</b>
Yamas	Living in harmony with the world and other beings in it.	Am I being kind and respectful to myself and others?
Niyamas (Self-Practice/Self-study)	Accepting each moment with mindfulness and gratitude. Establishing and following a daily schedule.	Am I accepting what is? Am I following my schedule?
Asana (Posture)	Physical postures and movements.	How am I moving my body?
Pranayama (Awareness of Breath)	Movement of the breath in and out.	Am I using my breath? Am I breathing freely?
Pratyahara (Release of the senses)	Conscious choices about what you take in and what you disregard.	How am I engaged? Look, listen, taste, smell, feel.
Dharana (Concentration)	Paying attention to one thing at a time.	What am I paying attention to?
Dhyana (Meditation)	Practice focusing your mind inside; resting your focus	Am I taking quiet time for myself?
Samadhi (Rest)	Feeling whole	Do I remember that I am perfect?

# Body Mind Centering® Approach

## Body-Mind Centering® Approach

Body-Mind Centering® (BMC) is a process of learning about oneself based on cognitive and experiential learning of the body. It encompasses investigations into all of the body systems, breathing and vocalization, the senses and the dynamics of perception, developmental movement (both human infant development and the evolutionary progressions through the animal kingdom.) The YogaPlay sequence incorporates key foundational developmental patterns represented in the BMC body of work – Expanding and Condensing Yield, Navel Radiation, Physiological Flexion and Extension, and the developmental patterns.

One of the major goals of the YogaPlay program is to develop and increase a child's ability to understand and manage their own bodies. We are building skills so a child can find balance between activity and rest, energy in and energy out, and to manage and control one's nervous system state.

Within our bodies, it is the autonomic nervous system that regulates this degree of activation and is a foundational aspect of the YogaPlay program. The autonomic nervous system has two components: the parasympathetic system and the sympathetic system. The two act in concert and coordination with each other as we progress throughout our day. This system is responsible for regulating our breathing, heart rate, organ and glandular function, and activation to muscles based on the needs of the moment.

The parasympathetic nervous system is responsible for the maintenance and stability of one's internal environment and comes to the forefront in rest, digestion, meditation, sleep and the more internal and self-nourishing activities. When it is activated, blood and attention is directed inwardly toward the digestive functions.

The sympathetic nervous system comes to the forefront when we engage with the outer world.

When activated, blood is directed toward the skeletal muscular system and attention is focused outward in the environment. At its extreme end, when more stimulation is coming in then can be processed, are the fight/flight/freeze responses. In our everyday living, it is the balance between these states of inner and outer focus, activity and rest, giving and receiving, that is a very important part of functioning in the world. Having a strong ability to come back to one's self, through the parasympathetic system, sets the stage for one's ability to come out and engage in the world through the sympathetic system. Being able to direct one's attention to the external environment and activities through the sympathetic system sets the stage for one's ability to relax and feel accomplished through the parasympathetic system. Through the entire yoga sequence, we have incorporated opportunities to practice the transition and balance between these two states.

Based on the 40 years of movement explorations of Bonnie Bainbridge Cohen and the Body-Mind Centering® community, ways of engaging with the autonomic nervous system have emerged.

The first is to contact, through awareness and movement, the physiological rhythm of the autonomic nervous system; this rhythm is called the Simultaneous Condensing and Expanding Yield. Other avenues of engagement are through the Basic Neurological Patterns, an evolutionarily and ontogenetically based developmental sequence. In the YogaPlay program, several patterns are foundational to the curriculum. These are Navel radiation, Physiological Flexion, Physiological Extension, the Pre-Spinal pattern. Further integration and organization come in with the spinal patterns – spinal, homologous, homolateral (right arm and leg, left arm and leg) and contralateral (right arm, left leg and left arm, right leg).

See the Reference section "Body-Mind Centering Definitions" for specific descriptions.

## YogaPlay Program Overview

Based on the background Yogic Philosophy and the BMC® approach already described, we have included several activities that help children have fun while exploring themselves and the world around them. The YogaPlay program, and each class within the program, introduces the following aspects as teaching tools:

### Moving in all Spatial Planes

In YogaPlay, we move in all three spatial planes, and strive for integrated three-dimensional movement.



The **horizontal** (or table) plane includes movement from left to right and from front to back, such as twisting, turning in a circle (pirouette) or log rolling. Turning to the left or right or rotating around the central axis of the body, for both infants and adults, yields different options for choice and opportunities for communication. For example, what you see in front of you is different than what you see if you turn to your left, to your right, or behind you.



The **vertical** (or door) plane includes movement up and down and from left to right, such as side bending or turning a cartwheel. This vertical plane of movement is associated with analysis, deliberation, intention, evaluative ability and presentation.



The **sagittal** (or wheel) plane includes movement from front to back and up and down such as front of back bending, forward or backward rolling. This sagittal plane of movement is associated with recall, planning, action and locomotion.

# YogaPlay Program Overview



Finally, there is **three-dimensional** movement, integrating all three planes of movement. This three-dimensional movement is associated with effortlessness, where the qualities of each plane have been fully developed and integrated, and the body-mind functions as a cooperative whole. The primary activities developed are creeping on the hands and knees, walking and leaping. When all three planes are equally balanced the movement becomes spirallic.

## Breathing

The breath is a gateway to the autonomic nervous system (ANS) because it is a body system that we have control over, and yet it also happens automatically. Breathing is a well-known tool for balancing the nervous system, such as taking deep breaths to calm down when you are angry or afraid.

Pranayama, control of the breath, is a vital part of any yoga practice. Relationship with and exploration of breathing is built into all the lessons and into the YogaPlay sequence. By bringing awareness to the breath and learning to utilize the breath to help manage the state of one's nervous system, children will find control and capability within their own bodies.

In YogaPlay, we use pranayama (breath) through a coordinated rhythm of inhale and exhale associated with postures and movements, chanting or singing, and nostril breathing, which helps in calming and pacing breath.

## Chanting

In YogaPlay, we use chanting or singing in order to feel the vibration of sounds moving through the body, heightening awareness of self and others, coordinating movement and sound, and aligning the children's energy or attention with one another and the space.

Singing is used to help the children with transitions, as in the preparatory song while the children are setting up their yoga mats, and in the concluding song when the children are putting away their yoga things. Chanting is also used at the beginning and end of each YogaPlay session.

## Awareness

In YogaPlay lessons, children are provided with activities that encourage body awareness, whether through movement, interaction with one another, or drawing. This body awareness encompasses internal organs such as lungs for breathing, as well as external body parts such as legs and arms, or front and back of the body.

Awareness is also brought to self and others, the surroundings, and social interactions with peers, teachers or parents.



# YogaPlay Characters

In YogaPlay, we use characters to entice the interest of children, and also to encourage learning through the embodiment of the yoga posture by taking on the qualities of the character.

## Sleepy Snail

The Sleepy Snail character represents the quality of condensing, drawing the body inward toward the central core, the self. It accentuates the parasympathetic aspect of the nervous system, which is responsible for inward action, rest and recuperation. The Snail character is supported by the Navel Radiation and Physiological Flexion/Extension patterns. It provides pathways for the body to both articulate and integrate the connections between the center (navel) and the periphery (limbs). Each limb is connected equally to the center, and the center is connected equally to each limb. The inward movement of the snail is supported by an exhalation, a releasing or letting go of the breath, which will draw the energy of the navel inward toward the front of the spine while the limbs condense inward to the center.



## Sparkly Star

The Sparkly Star character represents the quality of opening, expanding outward from the center of the body and reaching the limbs outward into space. It accentuates the sympathetic aspect of the autonomic nervous system, that which is responsible for engagement and action outward with the environment. It guides an individual to move outside of self-focus and into relationship with others and the world. The Sparkly Star is supported by the navel radiation pattern, connecting each limb equality in the center and the center connecting equally to each limb. Expanding and reaching outward most often will occur and will be supported by the inhalation aspect of breathing, the receiving aspect. The breath (with inhalation) begins at the navel and radiates outward, reaching all the limbs of the body.



## Snakey Spine

The Snakey Spine represents an awareness of the spine as one's central axis and creates an association of the spine with a soft snake-like movement. This soft, Snaky Spine represents finding the midline of the body and being able to rest comfortably in an upright posture, neither being rigid nor collapsing into gravity. So much of our sense of self, the anchor from which we move in any direction, involves the spine. Throughout each lesson and posture, we guide children in how to interact with their spine, and to keep it soft and supportive at the same time.



# YogaPlay Program

In this section of the manual, each YogaPlay lesson is described in detail, including setting up of the space, introducing the YogaPlay characters, following the current lesson, rest and recuperation, and finally, clean up of the YogaPlay space.



- Preparation:        Preparing the Space
- Warm Up:            Exploring the YogaPlay characters: Snail, Star, Snake
- Lesson 1:           In & Out
- Lesson 2:           Twisting and Turning
- Lesson 3:           Connect your belly to your limbs
- Lesson 4:           Push to Lift
- Lesson 5:           Animal Time
- Lesson 6:           Jumping Right and Jumping Left
- Lesson 7:           Zipper Up
- Lesson 8:           Where are your feet?
- Lesson 9:           Rocking and Rolling
- Warm Down:        Rest, Relax and Recuperate

# Preparation

## Creating Your YogaPlay Space

Gather the children and have each child choose a yoga mat. The teacher may suggest movement themes to enter or create the YogaPlay space, such as marching in a line, creating a circle, or a 'follow the leader' movement pattern. While entering the space, begin singing the *Preparation Song*:

### PREPARATION SONG

Group:           It's the time of day .....(pause for two beats)  
                      For YogaPlay

                      It's the time of day ...  
                      For YogaPlay

                      It's the time of day ...  
                      For YogaPlay

Teacher:       What do you say?

Children:       Yo-Ga Play!



# Preparation

## Introducing the YogaPlay characters with the Name Game

Once your space is set up with yoga mats either in a line, circle, or any other simple way, it's time to introduce the YogaPlay characters. Each character should be introduced separately, both as an image to color, and/or an object to look at and move into.

**Sleepy Snail**



**Sparkly Star**



**Snakey Spine**



Each child can choose one character to say his/her name with, or do all three. We recommend that each child says their name in all three character postures each time YogaPlay is practiced.

For example:

For Sleepy Snail, the child curls into snail, and whispers his/her name.

Sparkly Star: stands in star, and says name loudly.

Snakey Spine: sits or lays in snake, and hisses name.

## Warm Up

The purpose of the warm-up is to increase internal cellular vibration using both sound and breath. Children are introduced to the YogaPlay characters: Sparkling Star, Sleepy Snail and Snakey Spine. Moving the spine in all three directional planes and exploring the breath in all three planes begins to create the foundation and structured environment for our lessons to begin. We recommend that the warm-up sequence be practiced at the beginning of each YogaPlay sequence or daily as its own lesson to increase body awareness.

### CHANT

#### SEATED PRETZEL- SUKHASANA



Begin sitting with crossed Pretzel Legs.

INHALE – Bring thumbs to heart

EXHALE – chant “I ”



IN – Open palms and stretch all the fingers.

EX – Chant “AM”

#### MOUNTAIN- PARVATASANA



IN – Stretch arms above head and clap.



EX – Bring hands down midline to the front of the heart and chant “HOME” [om]; (hold the OMMMM).

Repeat chant with movement gestures three times.

# Warm Up

## HEALTHY BREATHING - PRANAYAMA



**INHALE** – Put hands on belly, feel belly move hands away from the spine.

**EXHALE** – Blow out through mouth, feel navel move back toward the spine.

**“BELLY BREATH”  
DIAPHRAMATIC BREATH  
(FORWARD)**

**DIAPHRAMATIC  
BREATH  
(SIDEWAYS)**



**IN** – Put hands on side of ribs, feel ribs expand out to the side, away from the spine.

**EX** – Blow out through the mouth, feel ribs condense in toward the spine.

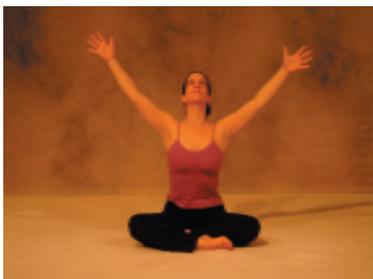


**IN** – Put hands on shoulders, fill lungs with breath beginning low, mid, and high sections of the lungs, while lifting up the elbows and growing taller in the spine.

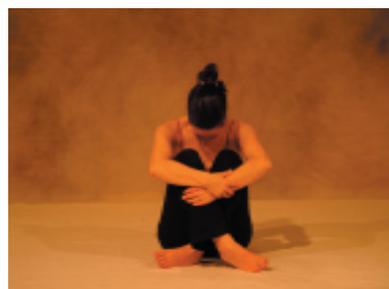


**3-PART  
BREATH**

**EX** – Blow out through mouth, lowering elbows, and keeping the spine tall.



**IN** – Stretch arms up and out and look up, using full breath capacity.



**3-DIMENSIONAL  
BUBBLE BREATH**

**EX** – Hug knees and look down and inward. Bring navel to spine to complete the exhalation.

## Warm Up

### SNAKEY SPINE VARIATIONS

Hands begin in the “heart mudra,” (Anjali Mudra). This mudra of the hands is a seal uniting the two halves or sides of the body, gently lifting the sternum and pressing the thumbs to the sternum, and the sternum to the thumbs.



Bring hands together at heart and begin to sway the hands and spine together from side to side, similar to the action of a snake.



Sway hands with spine up and down ...



forward, backward ...



...and from side to side.

## AIRPLANE TWIST - BHARADVAJASANA



IN – Sit with pretzel legs  
EX – Twist looking behind you.

IN – Return to pretzel sitting.  
EX - Twist the other way.

## Transitioning to Lesson 1

To transition into Lesson 1, use the snakey character: hands and spine move together to dive forward into a hole. Stretch out into a belly down posture.

### SEATED PRETZEL - SUKHASANA



INHALE – Bring hands to heart.



EXHALE – Allow your snake, hands and spine to curve into forward bend, to dive into an imaginary hole.

### FOLDED PRETZEL - YOGA MUDRASANA

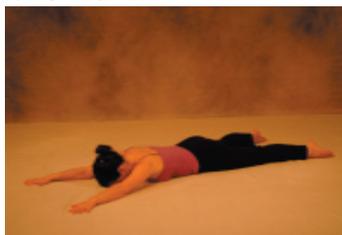


IN – Continue to stretch forward over crossed Pretzel legs.



EX - Continue to reach arms and spine, lifting the belly up and over the Pretzel legs.

### BELLYDOWN STAR - SAVASANA



IN – Stretch out all your limbs into bellydown star.

EX – Rest and feel the weight of all the body parts in contact with the floor.

## LESSON 1: In and Out

During this lesson, we will explore expanding away from center and condensing and drawing back toward center in the vertical plane. We will also explore tonal balance of the front and back body, sustaining side-lying balancing with a soft snakey spine.

### BELLYDOWN STAR - SAVASANA



INHALE - Ask the children to feel their whole body fill with breath. Have them wiggle their fingers and toes to stimulate all extremities.

### PENCIL - ANANTASANA SERIES



EXHALE - Bring hands together above head and legs together into Pencil pose.

### PENCIL BALANCE - ANANTASANA



IN - Roll onto the right side of your body.  
EX - Draw navel to spine and practice sustaining a soft Snakey Spine while balancing.

NOTE: *Children may fall forward or backwards; support them in staying playfully snakey in the middle.*

## LESSON 1: In and Out

### STRETCHING STAR



IN - Extend and stretch arms and legs away from the navel, stretching into Pencil-Star.

### SLEEPY SNAIL



EX - Condense and draw arms and legs toward navel center into a very small Sleepy Snail shape.

Repeat Expanding and Condensing sequence three times.

### PENCIL BALANCE



IN - Stretch body to explore side lying balance, sustaining a soft Snakey Spine.

### BELLY-UP STAR - SAVASANA



EX - Roll onto back and rest in belly-up star relaxation.

If ending YogaPlay for today, turn to Warm-Down section

## LESSON 2: Twisting and Turning

During this lesson we will explore twisting and moving across the horizontal plane through rotation, looking out to see our environment and what is around us.

### RAINBOW TWIST - JATHARA PARIVARTANASANA VARIATIONS



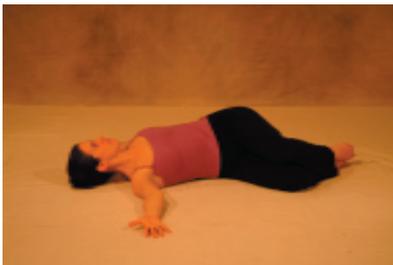
INHALE - Reach arms and legs in Pencil.



EXHALE - Turn onto side and bend knees, bring arms and hands together, stretched out in front of heart.



IN - Circle top arm over head to trace the floor with fingers. Encourage the children to create a rainbow on the floor above their heads as the upper spine twists to open toward the sky. Allow the head to follow the movement pattern freely.



EX - Draw navel toward spine, and actively lengthen the spine while exhaling. Reach arms out from the center of the heart.



IN - Circle arm back over head, tracing the rainbow pathway and bringing hands back together in side-lying.

## LESSON 2: Twisting, Turning

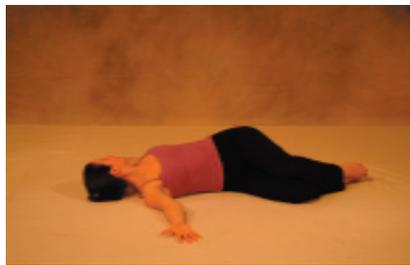
### OPEN BOOK TWIST



EX - Rest with a soft Snakey Spine.



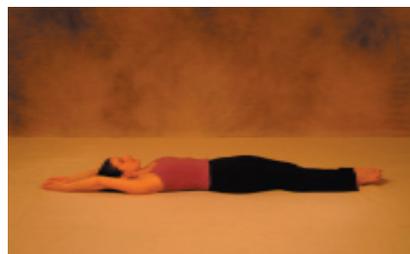
IN - Reach arm and hand to sky and begin opening arm like opening a book. Allow the heart to open to sky.



EX - Draw the navel to spine, elongating the spine. Reach arms out from the center of the heart. Do not force the rotation of the head. Allow the head to be free from tension either looking up to the sky or turned in either direction.



IN - Reach top leg to initiate star pose. Roll onto back in Sparkly Star.



EX - Bring arms and legs together to Pencil.



IN - Roll onto left side of body to repeat rainbow twist and open book on left side.



After completing left side, end in Belly-Down Star

If ending YogaPlay for today, turn to Warm-Down section

## LESSON 3: Connect Your Belly to Your Limbs

During this lesson we will explore moving each limb from the initiation of the breath, and the activation of the navel, from the center core of the body. We will explore navel radiation and moving from core to periphery to tone the mid-line, increase digestive organ function, and assist in musculoskeletal whole body movement and integration.

### BELLY-DOWN STAR



**INHALE** - Breathe in and feel the ribs moving out in all directions.  
**EXHALE** - Draw navel to spine.

### HEAD LIFT AND REACH



**IN** - Fill back and side ribs with breath behind and around the navel, and allow head to reach away from navel to float up off the floor. Draw navel toward spine with slight engaged quality.

### TAIL LIFT AND REACH



**EX** - Lower head bringing navel to spine with complete exhalation. The ribs will feel as if they are being knit together in the front body.

**IN** - Fill back and side ribs behind and around the navel, and reach tail to stretch away from the navel to float up off the floor. Draw navel toward spine with slight engaged quality

### HEAD & TAIL LIFT AND REACH



**EX** - Lower tail bringing navel to spine with complete exhalation and knitted ribs.

**IN** - Fill back and side ribs, reaching both the head and the tail away from the navel to float up off the floor. Draw navel toward spine with slight engaged quality, to sustain pathway of navel to head and navel to tail.

## LESSON 3: Connect Your Belly to Your Limbs

### SALABHASANA VARIATIONS

#### HEAD & ONE ARM



EX - Lower head and tail, supported by the navel, and return to the floor.

IN - Fill back and side ribs, lifting head and right arm. Draw navel in toward spine with slight engaged quality.

EX - Lower head and arm and rest.

#### HEAD & OTHER ARM



IN - Fill back and side ribs with breath, lifting head and arm.

EX - Draw navel to spine to lower and rest.

#### BOTH ARMS



IN - Fill back and side ribs, stretching and lifting head and both arms.

EX - Draw navel to spine to lower and rest.

#### TAIL & ONE LEG



IN - Fill back and side ribs, lifting tail and right leg.

EX - Draw navel to spine to lower and rest.

#### TAIL & OTHER LEG



IN - Fill back and side ribs, stretching and lifting tail and left leg.

EX - Draw navel to spine to lower and rest.

## LESSON 3: Connect Your Belly to Your ... (Navel radiation, core to periphery)

### TAIL & BOTH LEGS



INHALE - Fill back and side ribs, reaching and lifting tail and both legs.



Note: *Do not force legs up, rather, reach or slide legs away from center, then elevate legs if child has front body pelvic stability and low back strength. If lower back tension arises, do not lift both legs simultaneously.*

EXHALE - Lower and rest.

### OPPOSITE ARM AND LEG



IN - Fill back and side ribs, lifting head and one arm and tail and opposite leg.  
EX - Lower and rest.

### OPPOSITE ARM AND LEG



IN - Fill back and side ribs, lifting head and one arm and tail and opposite leg.  
EX- Lower and rest.

### FLOATING STAR: SALABHASANA I



IN - Fill back and side ribs. Extend spine and float up all your limbs.  
EX - Lower and rest (Belly-Down Star)



**HANDS-ON** Teaching support: To help children find their navel pathway to limbs, gently trace the pathway on the skin or keep touch on low back and/or belly and periperal limb while the child is doing the exercise.

If ending YogaPlay for today, turn to Warm-Down section.

## LESSON 4: Push to Lift

During this lesson we will explore moving away from the earth using the strength of the upper limbs and the coordination and integration of the arms pushing back to activate the movement of the lower spine and pelvis.

### LIZARD CRAWL SERIES

#### BELLY-DOWN STAR



INHALE - Breathe and feel fingers and toes wiggle, while reaching the breath away from center of the body.

#### EATING APPLES



EXHALE - Pull left hand to mouth (as if to nibble on an apple), simultaneously bending knee on left side to condense lateral side of waist.

#### PICKING APPLES



IN - The left big toe then pushes down and slides on the floor (as if to take a step up a ladder). The left leg then lengthens. Simultaneously, reach out with left hand to stretch to “pick another apple”.

#### EATING APPLES



EX - Change hands to eat the apple with the right hand and bring the right hand to mouth and the right knee into lateral side position.

Repeat the sequence three times.

## LESSON 4: Push to Lift

### BUJANGASANA VARIATIONS

#### BELLY-DOWN STAR



IN - Return to Belly-Down Star position, taking an expansive side and back rib breath.  
EX - Navel to spine, yielding into the earth.

#### 1/4 RISE & LIFT



IN - Push arms down into floor to lengthen and lift head, neck and upper spine sequentially.

#### BELLY-DOWN STAR



EX - Lower body.

#### 1/2 RISE & LIFT



IN - Push arms down and slide elbows under shoulders to lift head, neck and upper spine, directing the children's gaze outward.

NOTE: *Rocking backward by pressing forearms into the earth will stimulate the tail through the pathway of the navel, and creates upper and lower body connections; i.e, snake traveling backward, or "on your mark, get set, go."*

## LESSON 4: Push to Lift (Using the arms to activate the lower spine)

### 3/4 RISE & LIFT



EX - Lower body and yield into earth, sliding hands next to shoulders.



IN - Push hands and reach upper body away from earth. Rock hands to tail, with focus outward.

### CREEPY CRAWLY PREP



EX - Lower and yield into earth, bringing hands under shoulders with elbows out to sides like a lizard.

### CREEPY CRAWLY RISE & LIFT



IN - Push hands and reach upper body away from earth with focus outward.



*NOTE: The navel is not collapsed, it is toned and yields upward supporting the front of the spine. If your child experiences any spinal discomfort, do not lift or rise as high, and encourage more front body tone toward spine. You may proceed to sleepy snail (spinal flexion) at any time for a full spinal release.*

## LESSON 4: Push to Lift



**3/4 RISE & LIFT**

EX - Lower and slide hands behind shoulders with elbows floating up to the sky.



**TABLE**

IN - Push hands into the earth and allow the upper body to reach and float upwards.



EX - Continue pressing back with arms to the tail, and lift the tail to push the whole body backward into Sleepy Snail.



IN - Land in Sleepy Snail.

EX - Yield navel toward the spine and rest with full round back. Continue to take a couple of full breath repetitions to fill back and side ribs.

If ending YogaPlay for today, turn to the Warm-Down section

## LESSON 5: Animal Time

In this lesson, we are exploring moving the head and tail toward each other through flexion, moving the head and tail away from each other through extension, and balancing the spine in its neutral alignment, from head to tail.

### SLEEPY SNAIL



INHALE - Begin in Sleepy Snail.  
EXHALE - Yield navel toward spine and rest.

### TURTLE



IN - Slide nose forward like a turtle coming out of a shell or coming out to smell something delicious.

### TABLE



EX - Push upwards onto all four limbs, reaching head and tail in opposite directions.  
IN - Breathe fully, sustaining the length of the spine with neutral alignment and a soft Snakey Spine.

## LESSON 5: Animal Time

### CAT



EX - Move the head and tail toward one another, condensing the front of the spine into flexion. Notice and assist the child if s/he is pushing the spine upward rather than moving inward toward the center core.  
IN - Return to Table with neutral spine alignment.  
EX - Stay, and draw navel to spine.

### STRETCHING CAT



IN - Move the head and tail away from one another, extending the spine. Notice and assist the child if s/he is dropping or compressing the back of the spine, rather than moving head and tail outward away from center core, navel yielding connection.

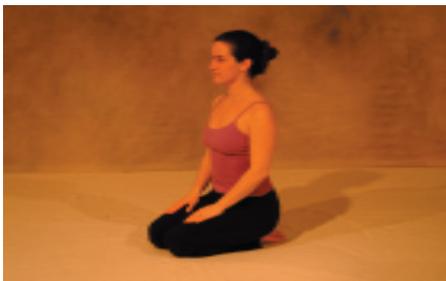
### TABLE ROCKING



EX - Return to Table.  
IN - Using the arms, push back to reach tail, rocking back.  
EX - Using the toes or forelegs, push down to reach head and rock forward.

Repeat three times.

### KNEELING POSE - VAJRASANA



IN - Using the arms, press back to sit on the feet in kneeling.

EX - Kneel and rest with a long soft Snakey Spine.

If ending YogaPlay for today, turn to Warm-Down section.

## LESSON 6: Jumping Right and Jumping Left

During this lesson, we will explore moving the core center of the body using the strength and coordination of all the limbs. We are including the head and tail as limbs of initiation.

Navel radiation is the underlying foundation for the strength, agility and mobility explored in this playful sequence.

### KNEELING POSE - VAJRASANA



INHALE - Lengthen spine upward with a soft Snakey Spine.

EXHALE - Navel yields toward spine, sustaining long spine.



IN - Push down through the legs and reach arms forward, keeping forelegs connected to the ground.



EX - Yield navel to spine in Table with soft Snakey Spine.

IN - Curl toes under feet.

### TABLE

### STRETCHING STAR - ADHO MUKHA SVANASANA



EX - Push arms to reach tail back to Stretching Star on all four limbs (legs can be squeezed together or slightly apart).

### LUNGE - VIRABHADRASANA



IN - Look forward between feet and step right foot forward to lunge.

NOTE: Use hand on ankle to bring lunged leg forward.

## LESSON 6: Jumping Right and Jumping Left

### STRETCHING STAR



EX - Push down through hands to reach tail back to return to Stretching Star on four limbs, legs squeezed together.

### LUNGE



IN - Look forward between feet and step left foot forward to lunge.

### STRETCHING STAR



EX - Push down through hands to reach tail back to return to Stretching Star on four limbs, legs squeezed together.

### JUMPING



IN - With legs squeezed together, jump to the right.

EX - Jump to the center.

IN - Jump to the left.

EX - Jump to the center.

### SANDWICH - UTTANSANA



IN - Look forward and jump feet to hands.

## LESSON 6: Jumping Right and Jumping Left

### SANDWICH - UTTANSANA



EX - Forward bend, pressing feet and hands down into the earth and navel yielding up to spine.

**!** NOTE: *Release back of head and neck, allowing the head and neck to be easy soft snakey spine. Knees may be bent with no spinal strain.*



IN - Reach arms out beside the ears, creating the letter “L”.

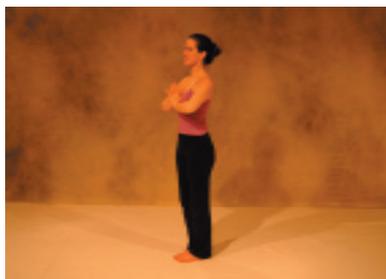
**!** NOTE: *Knees may be slightly bent so the spine is elongated in neutral spinal alignment with no spinal flexion.*

### MOUNTAIN - TADASANA



EX - Lift spine upward, articulating extension from the hip socket to create the letter “I”, or a strong mountain.

IN - Clap hands together above head.



EX - Slide hands down the mid-line of the body in the heart mudra, sustaining a soft Snakey Spine.

If ending YogaPlay for today, turn to the Warm-Down section.

## LESSON 7: Zipper up

During this lesson, we will explore moving into mid-line and playing with balancing and falling away from mid-line. Establishing a strong mid-line supports the vertical axis of the body and the tone of the digestive system.

### THE ZIPPER - TADASANA



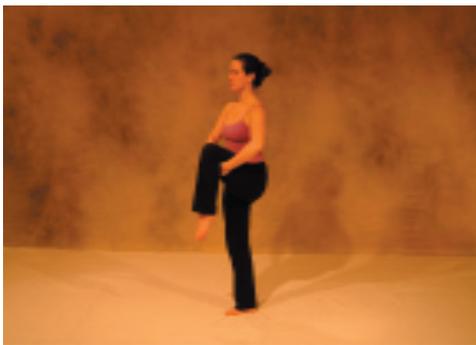
INHALE - Stand with hands in heart mudra with a soft Snakey Spine.

EXHALE - Navel yields into spine, creating a strong mountain posture.



IN - Reach down to the feet to gather and slide left leg up the side of the right leg, making a zipping sound.

### TREE - VRJASANA



EX - Clasp hands under knee at top, keeping spine elongated like a mountain.

IN - Lower leg.

EX - Feet together with navel yield to prepare to do the other side.

Repeat using left leg.

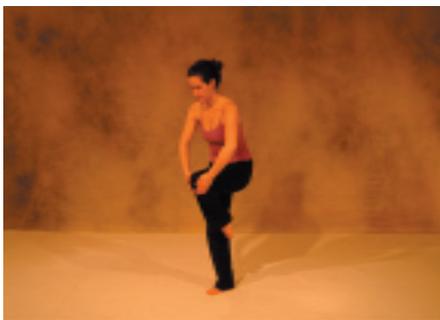
## LESSON 7: Zipper up

### MOUNTAIN - TADASANA



IN - Stand with hands in heart mudra with a soft Snakey Spine.  
EX - Navel yields into spine, creating a strong mountain posture.

### ZIPPER



IN - Reach down to the feet together and slide left leg up. The left foot stays in contact with the side of the right leg at all times.

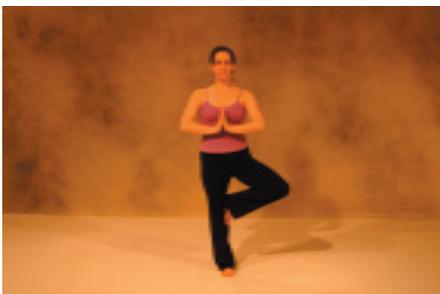
Use the sound “zip” to sustain movement up the mid-line (“zzzzzzzip”).

### TREE - VRKSASANA



EX - Open knee to side with arms and hands open, palms and fingers wide.

### SWAYING TREE



IN - Bring hands together to mid-line in heart mudra balancing, falling, balancing.

If ending YogaPlay for today, turn to the Warm-Down section.

## LESSON 8: Where are your feet?

In this lesson, we will explore articulating the feet, ankles, knees and hips, using full body swinging movements, forward bending and swaying from side to side to find our foundation.

### ZIPPER INTO TREE



INHALE - Zipper up.  
EXHALE - Navel yields to spine, finding balance.  
IN - Lengthen soft Snakey Spine.

### WARRIOR II - VIRABHADRASANA II



EX - Reach left leg away from body and fall into a side lunge. Look toward the direction of the fall.

### TRIANGLE - TRIKONASANA



IN - Turn gaze forward and tip spine into side bend. Reach top arm up and over head and touch leg with bottom arm.

### PARSVOTTANASANA SIDE STRETCH



EX - Turn navel toward the leg into side stretch with both hands touching left foot.



IN - Hold foot and turn the foot so toes are facing forward. Feet are now parallel.



EX - Hold ankles and lengthen spine between legs. Press outer edges of feet into the earth with full heel contact.



IN - Bend legs.



EX - Push feet down into the earth and gently reach tail up to the sky, gently stretching back of legs. Press outer edges of feet into the earth to sustain balance. Release back of the neck and spine.

## LESSON 8: Where are your feet?

### SKATING



IN - Bend left knee, keeping right leg straight like you are skating. Hold ankle or lower leg.  
NOTE: *Press outer heel of foot into earth for support and stability.*

EX - Return to center with navel yielding in peek-a-boo posture.

IN - Bend right knee and keep left knee straight. Skate from side to side before moving on. Repeat three times and end in peek-a-boo.

EX - Return to center with navel yielding in peek-a-boo posture.

### SWINGING SPARKLY STAR



IN - Sweep both hands to ankle of right leg and begin to create a star circle...

...reaching arms to right Sparkly Star.

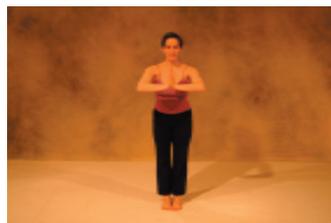
EX - Center Star. IN - Left Star.

EX - Complete Star circle, lengthening spine between legs in peek-a-boo.  
IN - Bend knees.  
EX - Roll spine up to standing.



IN - Expand and reach arms to open the Star.

### MOUNTAIN TADASANA



EX - Jump, bringing hands to heart mudra and legs together at mid-line with soft Snakey Spine.

## LESSON 8: Where are your feet?

Repeat sequence on the other side with the right leg.

Right Leg movement sequence:

- Zipper into tree
- Warrior II
- Triangle
- Sidestretch
- Peek-a-boo
- Skating
- Swinging Sparkly Star
- Mountain

If ending YogaPlay for today, turn to Warm-Down section.

## LESSON 9: Rocking and Rolling

During this lesson, we will explore rolling down the spine, rocking and rolling on the spine like a ball, and inverting by turning the spine up-side-down.

### MOUNTAIN TADASANA



INHALE - Soft Snakey Spine, spine lengthens to grow tall.



EXHALE - The head nods to begin a forward bend, rolling down to touch the floor with hands.



### SITTING SNAIL



IN - Hug knees and bend down, lowering tail to earth.

EX - Stay small in Sleepy Snail.

### BADDHAKONASANA - SITTING BUTTERFLY



IN - Open knees to side and hold ankles with hands, pressing soles of feet together.

EX - Snakey Spine is lengthening upwards - navel yields to spine.

### NAVASANA VARIATIONS - ROLLING BUTTERFLY



IN - Hug knees, tuck chin and lift feet to balance just back of the tail bone. Gently feel the tail tuck under like a frightened cat.



EX - Roll back, only onto mid-back.



IN - Roll forward.

**!** NOTE: *Instruct children to keep chin tucked close to chest during the entire roll so not to hit the back of the head on the floor during the roll back.*

Repeat roll three times.

## LESSON 9: Rocking and Rolling

### FEET OVER HEAD - HALASANA



EX - Roll back to touch toes to floor and press arms and hands down.

 NOTE: *Instruct children to not put weight on cervical neck vertebrae. All weight should be distributed across shoulders and upper back.*



IN - Push arms and hands down and take a wide back breath as tail reaches up to sky, keeping a soft throat.

EX - Continue to press the arms down on either side of body with navel yielding toward spine.



IN - Slide arms on floor like angel arms. The arms will land next to the ears.

EX - Continue pressing arms into the earth, keeping weight off the neck but on the upper back and shoulders.

IN - Prepare to roll down with wide back breath.



EX - Slowly lower one vertebrae at a time, reaching head and arms in one direction and tail in opposite direction until the back is resting softly on the earth.



IN - Reach toes to sky and bend knees into chest.



EX - Lower feet to the earth one foot at a time.

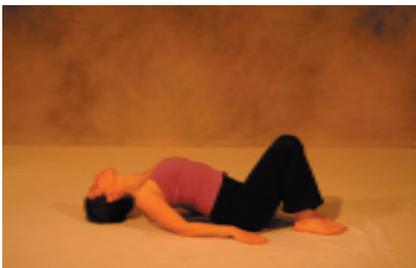
## LESSON 9: Rocking and Rolling



IN - Angel arms return to sides of body.

EX - Rest, yield navel to spine.

### FISH KISSES - MATSYASAN



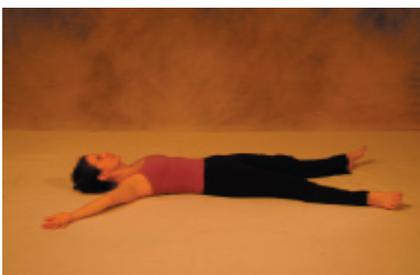
IN - Push hands, forearms and elbows down into the earth and lift heart up to the sky. Slide chin up and forehead slightly back to open throat.



*NOTE: Stretching the tongue up to the sky and blowing kisses upwards will support opening the front of the neck without compressing the back of the neck.*



EX - Rest.



If ending YogaPlay for today, turn to Warm-Down section.

## Warm-Down: Rest, Relax, and Recuperate

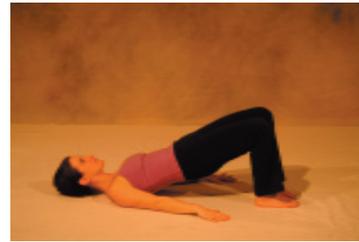
We recommend that each YogaPlay lesson end with a warm-down. The warm-down can also occur on its own as a session on a daily basis.

During the warm-down, we will explore moving the spine in a neutral spinal alignment, balancing the front and back tone of the body to allow the spine to be soft and snakey, providing a foundation of rest for the heart and mind.

### BRIDGE - SETUBANDHA SARVANGASANA



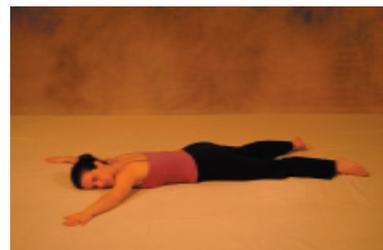
IN - Float arms and hands up, keeping shoulders wide on the earth. Open legs hip width apart with feet close to seat and sit bones.



EX - Press arms and hands down and lift seat up, reaching the knees up and over the ankles and feet.

*NOTE: Repeat three times, keeping a neutral spine that is soft and snakey throughout all of the spinal curves. Do not push the spine up; rather, lengthen the spine from head to tail.*

### RESTING STARFISH - SAVASANA



Have the children lay on either the belly or the back to come into a complete restful and relaxed state.

Use natural breathing, creating an atmosphere of complete comfort for the child. Each time the warm down is practiced, encourage the time of recuperation to be lengthened in the lesson (i.e., two minutes, four minutes, six minutes, eight minutes). Pay attention to the child's tolerance level and follow along.

## Warm-Down: Rest, Relax, and Recuperate

### ACCOMPANYING RECOMMENDATIONS FOR REST, RELAX, AND RECUPERATE:

To support a child's tolerance for Rest, Relax, and Recuperate, YogaPlay explorations include:

- Introducing a the child's favorite soft music instrumental.
- Introducing a storytelling guided visualization (that is calming) for the child to follow with mental attention.
- Introducing a color visualization where the child chooses his/her favorite color to wash over and and soothe the body inside and out.
- Introducing the use of an eye pillow and/or blanket to provide extra support for deepening relaxation and recuperation.

## Transition to Warm-Down Chanting

To complete the YogaPlay lesson, instruct the children to roll onto their sides into Sleepy Snail with three breaths and then push up to Pretzel Sitting in a warm-down circle.

### WARM-DOWN CHANT

#### PRETZEL SITTING - SUKHASANA



“I”



Sitting in a circle or across from your child, recite the closing chant.

*NOTE: Often choosing one child in the class to lead the chant can increase and gather group attention back to a pointed focus before ending the YogaPlay lesson for the day.*



“AM”



“HOME”



Repeat three times



# Body Mind Centering® Definitions

## **The Simultaneous Condensing and Expanding Yield**

A deep internal cyclic condensing and expanding that occurs in every cell and in the fluids of the body. The condensing aspect relates to the parasympathetic nervous system, the expanding aspect relates to the sympathetic nervous system and the yield relates to neutrality or a possibility of balance. It is a whole body fluid rhythm that relates to one's vitality and life force.

## **Physiological Flexion**

A whole body pattern of flexion that begins in utero with flexor tone developing on the front side of the body initiated in the feet and sequencing up the body to the hands and head. The flexor pattern appears to be a reflection of the activity of the developing digestive system.

## **Physiological Extension**

A whole body pattern of extension that begins in utero with extensor tone developing on the back side of the body initiated in the feet and sequencing up the body to the hands and head. The extensor pattern appears to be a reflection of the activity of the developing nervous system.

## **Navel Radiation**

This pattern develops in early embryological development, when the fetus is connected to its mother via the umbilical cord; it orients the body spatially around which the limbs connect to each other and move in relation to the core of the body and to each other. In this organization pattern, the navel (belly button) is the center of the body and there are six limbs (head, tail, two arms, two legs) on the periphery. All six "limbs" are differentiated and then integrated with each other to establish a baseline for the more specific patterns that develop later on. The movements and relationships between the limbs and

the core are fluid in nature, creating support for the tissues, movement and relationship between a person and the outer boundary of themselves.

## **The Prespinal Pattern**

The prevertebrate Prespinal Pattern is a soft, organic spinal pattern organized around the notochord, a soft fluid-filled rod that establishes a strong central support as well as separating the digestive tract and the central nervous system. This Prespinal Pattern underlies and establishes a base of sequential mobility for the later development of the "hard spinal" movement patterns initiated in the bony vertebral column of the vertebrates.

Poor development of this pattern leads to tightness and blocking of areas of the spine. If this condition already exists, whether in an infant or older adult, establishing the Prespinal Pattern can significantly alleviate this problem. Yoga and other sensory-movement disciplines, when approached with a gentle, non-aggressive manner, facilitate the development of this pattern.

The snakey spine character supports and facilitates development of this pattern throughout the YogaPlay lessons.

## **Spinal Patterns**

These patterns establish a connection between head and tail, a primary midline axis. They represent a change of organization from a navel center with equal relationship of all limbs to a midline organization with a central axis. Our senses are oriented around the midline axis and the ability to function in this orientation is an important component underlying one's ability to manage sensory input.

## **Homologous**

The Homologous patterns (where right arm and right leg, and left arm and left leg function

# Body Mind Centering® Definitions

together )are the first patterns that are symmetrical, where both arms or legs move simultaneously. This pattern establishes lateral stability throughout one's body, and it differentiates the upper half of the body from the lower half. The homologous patterns provide intention and dialogue with gravity and with space. The failure of this pattern to develop can manifest as difficulty finding the strength of support to reach beyond oneself and to take the actions necessary to obtain what one wants.

## Homolateral

The homolateral patterns are the ones that differentiate the two halves of the body. This process allows lateral weight shifts to occur, first through the upper limbs in regard to the free movement of the head, and then through the lower limbs with the free movement of the tail. In the homolateral patterns, the arm and leg can move sequentially or simultaneously. Differentiating the two sides of one's body are important concepts in the establishment of body image and learning.

## Contralateral

The contralateral patterns are the ones that differentiate the four quadrants of the body (where right arm and left leg, and left arm and right leg function together). They underlie crossing of the midline, diagonal and spiralic movement, and three-dimensional orientation. In these patterns, the arm and opposite leg can move sequentially or simultaneously.

Walking has evolved "hand in hand" with the increase of hand dexterity, increased speech articulation and communication through language, and the development of the frontal brain and consciousness of self. As the contralateral patterns develop in the quadruped posture on the hand and knees, it is extremely important that babies be allowed and encouraged to develop creeping forward and backward before they stand and walk. Many children who

have learning problems did not creep as infants, but went directly from sitting to standing. This does not mean that all children who do not crawl will have a learning problem.

Creeping is also important in the strengthening and integration of the deep pelvis musculature. Therefore, the lack of creeping can be an underlying factor in the low back syndromes so prevalent in our Western culture.

## Tone

Tone is the expression of a person's inner environment and readiness to relate to self and others based on one's cellular aliveness and activity.

Cellular tone is the degree of activity manifested in the cells. It can be perceived as the overall energy available to the person. Tone is relative and is reflective of the interaction and bonding between one's inner and outer environment.

Postural Tone is the background activity of muscles underlying muscular contraction and is dependent upon the underlying cellular tone of other tissues. It is the resting state of muscles before a contraction takes place, expressing the readiness of a muscle to respond or relate.

Muscular Tone is a localized view of postural tone. It refers to a particular muscle or group of muscles and not the overall muscular activity of the whole person (body).

# Bibliography

1. Bainbridge Cohen, Bonnie, Primitive Reflexes, Righting Reactions and Equilibrium Responses and Yoga, Gravity and Space, Unpublished Manual, School for Body-Mind Centering<sup>®</sup>, 2003.
2. Bainbridge Cohen, Bonnie. The Basic Neurological Patterns, Unpublished Manual, School for Body-Mind Centering<sup>®</sup>, 1993.
3. Bainbridge Cohen, Bonnie, Sensing, Feeling, and Action: The Experiential Anatomy of Body-Mind Centering, North Atlantic Books, 1994

## RESOURCES

This section of the manual includes resources that you might find helpful in doing the YogaPlay program.

Included in this section are a research study conducted at Whole Children on the benefits of yoga with children with special needs, sample forms and coloring sheets.

The following are a list of resources:

Whole Children, Inc.  
8 River Dr.  
Hadley, MA 01035  
(413) 585-8010  
[www.wholechildren.org](http://www.wholechildren.org)  
[info@wholechildren.org](mailto:info@wholechildren.org)

The School for Body-Mind Centering®  
189 Pondview Drive  
Amherst, MA 01003  
(413) 256-8239  
FAX (413) 256-8239  
[www.bodymindcentering.com](http://www.bodymindcentering.com)  
[info@bodymindcentering.com](mailto:info@bodymindcentering.com)

## The Effect of Yoga on Selected Physiological and Behavioral Variables on a Group of Children with Special Needs

Robert James, PhD, PT, Carrie McGee, MHA,  
and Alisa Wright, MA, DTR

Nine children with special needs were evaluated before and after weekly yoga classes. This pilot study was conducted over a 10 week period. Objective outcome measures were made of blood pressure, heart rate, skin conductance level, eye-hand coordination, and static balance. Systolic blood pressure showed significant reduction. A significant negative finding was noted for eye-hand coordination. All other objective measures did not show significant changes. The subjective evaluations by the yoga teacher and parents suggested subtle yet meaningful benefits for the children. Suggestions are made for further study.

Correspondence address: Whole Children, Inc., 8 River Dr., Hadley, MA 01035

Yoga for children shows increased interest as a means of engaging the child in a contemplative experience that leads to an apparent wholesome body-mind integration. Such integration is purported to result in improved self image, impulse control, balance, eye-hand coordination, strength, endurance, relaxed breathing, calming and relaxation, as well as, improved social interaction. However, support for yoga for children is mostly anecdotal but with increasing scientific studies ( Jensen, 2004; Clance, et al., 1980; Uma, et al., 1989). Caution has been voiced concerning the design of several of the reported studies ( Kassow, 2004). The design of these studies is most often faulted by the lack of matched control groups and the number of subjects.

While the following pilot study does not put to rest the issues of a matched control group and increased statistical power with a greater number of homogeneous subjects, we have been encouraged in our research direction by the parent's and the children's enthusiasm in prior yoga classes at the Whole Children Center.

The purpose of this study was to investigate the effect of yoga with children with special needs on selected physiological and behavioral variables integrated with the goals of self-awareness and self-regulation. In addition, the outcome measures and analysis should provide direction for future research at the Center.

## METHOD

### Subjects

Five male and 4 female children (aged between 5 and 10) from the Whole Children, Inc. yoga class volunteered for the study. An informed consent document was reviewed and signed by a parent or guardian of each child. The selected sensory motor and physiological measures were reviewed with each of the principles involved.

### Procedure

#### Objective Tests (5)

The child was tested individually by selected staff members with a parent or guardian present. The objective tests consisted of blood pressure, heart rate, skin conductance level, eye-hand coordination and static balance. The objective tests were conducted before and at the end of each 60 minute class

Blood Pressure (BP) and Pulse Rate(PR) BP and PR were used as physiological measures of the state of the individual. Both blood pressure and heart rate were determined with a Digital Blood Pressure Monitor (AND UA-767). While sitting, a child size blood pressure cuff was placed around the left upper arm and held in place with velcro. The automatic unit controlled the inflation and release of cuff pressure. Systolic pressure, diastolic pressure, and pulse rate was recorded from the automatic monitor.

Skin Conductance Level (SCL) SCL was used as an indirect measure of sympathetic nervous system activity. SCL reflects the arousal state of the individual (McIntosh, et al., 1999). Comfortable padded sensors were placed on the ends of the three middle fingers (palm side) of the left hand. The child rested the left hand on the table for approximately 20 seconds. A mild non-perceptual micro current was passed between the sensors. The level of SCL was recorded from a computer screen.

Eye-Hand Coordination (E-HC) E-HC was used as a measure of sensory-motor and impulse control. From a standing position, a 5 x 5 inch metal framed target was placed shoulder high and at arms length in front of the child. The task was to place the pencil like stylus in and out of the graduated vertical holes starting at the largest and progressing up to the smallest without touching the side of a hole. A small light on the target turned off with hole-stylus contact. The whole sizes were numbered and used to score the child's performance.

Static Standing Balance (SSB) SSB was used as an indicator of sensory-motor integration and self-regulation ( Telles, et al,1993). The child was asked to balance on one leg and then on the opposite leg with the eyes open. Performance scores were recorded in tenths of a second for each leg.

## Subjective Measures:

### Yoga Teacher

Following each class, the yoga teacher evaluated a child on selected behavioral measures of the ability to focus and pay attention, engage in the class, follow directions, transition between activities, control of breath, meditation engagement, and impulse control. Each of these behaviors were rated from 1 to 10 with 1 indicating not engaged in the activity at all, 5 indicating the activity and skill is emerging, and 10 the activity or skill is mastered.

In addition, the child was asked to express his/her feelings in drawing of a face (Richey, 1965) at the beginning and end of the class.

Asanas were judged in reference to expanding, condensing, and yielding to the postures of the daily class.

### Parent/Guardian Assessment

Following the last yoga class each parent or guardian completed a questionnaire concerning observations of their child. Ratings from 1 to 10 were made on observations of interested in coming to class, participates in all aspects of class, able to follow directions, able to transition between activities, and able to focus/pay attention. The rating scale of 1 indicated not engaged in activity at all, a 5 rating indicated activity /skill is emerging, and a 10 rating indicated that the activity /skill is mastered.

The respondent was also asked to compare their child's behavior on the night after a yoga class to the other weeknights. The ratings were based on values of higher, lower same as other nights or inconsistent, Questions concerning appetite, verbal ability or assertiveness were judged as increased, decreased, more verbal, less verbal, more assertive or less assertive, respectively in order. Final input was a place for the parent/guardian to give general comments.

### Subject's ID

Each subject was given an ID number to protect privacy in reporting the data. An individual parent/guardian had access to their child's ID.

## RESULTS

### Objective Measures

Seven of the children completed the objective phase of testing and evaluation. Table 1 illustrates group averages for systolic blood pressure, diastolic blood pressure, heart rate, skin conductance level, eye-hand coordination, right leg balance, and left leg balance before and after a yoga class.

## Group Objective Test Averages

Table 1

Test Variables	Average	Standard Deviation	Average	Standard Deviation
	Before Class	Before Class	After Class	After Class
Systolic Blood Pressure	110.6 mmHg	11.6	106.0 mmHg	12.9
Diastolic Blood Pressure	66.4 mmHg	8.6	65.8 mmHg	8.5
Heart Rate	91.7 b.mm	4.1	93.3 b.mm	7.9
Skin Conductance Level	5.3 micro mhos	3.4	5.2 micro mhos	3.3
Eye-Hand Coordination	.18 rel. value	.15	.12 rel. value	.16
Right Leg Balance	6.3 sec.	7.5	4.5 sec.	4.5
Left Leg Balance	6.4 sec.	6.6	5.5 sec.	6.0

Group systolic blood pressure values before and after were significantly different over the test days,  $t(6) = 2.5$ ,  $P < .05$ , thus, indicating that systolic blood pressure was influenced by the yoga class intervention. The average amplitudes over the ten class days were 110.6 mmHg and 106.0 mmHg for before and after classes. These values indicated a significant decrease for the group of 7 children.

The group diastolic blood pressure values before and after were not significantly different over the ten class days,  $t(6) = 1.1$ ,  $P > .05$ . The average amplitudes were 66.4 mmHg before classes and 65.8 mmHg after classes, thus, indicating no significant change in the resting contraction phase of the heart cycle.

Average group heart rates over the ten test days were 91.7 b.mm before classes and 93.3 b.mm after classes were not significant  $t(6) = -.81$ ,  $P > .05$ .

The acceptance of the null hypothesis following yoga classes suggests stability of the heart rate variable over time.

Group skin conductance levels before and after 10 weeks of yoga classes were not significantly different,  $t(6) = .97$ ,  $P > .05$ . The average mean skin conductance levels were 5.3 micro mhos before and 5.2 micro mhos after classes. Again, suggesting stability of this physiological parameter over time.

Average group eye-hand coordination scores before and after the 10 weeks of yoga classes were significant,  $t(6) = 5.4$ ,  $P < .05$ . However, the direction of the mean scores of before .18 to .12 after suggests less hand-eye stability following the yoga classes.

Average static balance for both the right leg and left leg did not show significant gains. The  $t$  values of 1.4 and 2.2,  $P > .05$ , for the right leg and left leg. The right leg static average balance before was 6.3 seconds and 4.5 after classes. Left leg mean values were 6.4 sec. and 5.5 seconds.

### Subjective Evaluation by the Teacher

Table 2 illustrates the individual ratings for day one and the last day. Reference to an individual child is by ID only. The group trend in ratings from day one to the final day of class was judged as positive.

Subject 11 baseline ratings were high and remained high. This child was very observant and a great learner and demonstrated leadership ability.

Subject 12 illustrates a considerable positive improvement trend.

The teacher noted that subject 12 took a leadership role and improved focus and with the ability to change direction of asanas and themes.

Subject 13 showed baseline ratings one step below mastery of the activities and skills.

A slight drop was noted in ratings on the last day. The yoga teacher suggested that the slight decline in ratings seemed associated with a pending family trip.

Subject 14 showed considerable improvement in ratings for the last class day. This child started with scores in the range of 5 and 6 and ended in a range of 8 and 9. The teacher noted increased focus and engagement in the asanas.

Subject 21 started on day 1 with mid-range ratings and progressed towards mastery on the last day of class. The child showed signs of sustained fluid movement with controlled asanas to music. A high level of breath control was noted.

Subject 22 averaged high in 5 of the 8 ratings on day one and progressed to near mastery of the activities and skills of the yoga class on the last day. The teacher noted that subject 22 enjoyed trying new asanas. Impulse control showed considerable improvement over the ten class days.

Subject 23 rated 5 on all 7 subjective categories. However, considerable gains were noted on the final class. Subject 23 was able to focus and pay attention, able to engage in class, and able to follow directions, truly a nice shift in class behavior. The teacher rated Subject 23 with an average of 8 on the last 4 assessment categories. This subject was making positive progress in his yoga class behavior.

Subject 24 showed a slight regression on the last day, however, the second and third class days showed improvement with greater engagement in class and with other students.

Subject 25 started the weekly classes in the range between 4–7 on the subjective assessment scale. Large changes were noted on the final class day (7–9 range).

### Drawing of Face (Self)

No cognitive-perceptual evaluation was made of the self-drawing, rather the drawings were used to judge the developing sensory motor skill associated with two-dimensional shape, form, placement of parts of the face, and eye hand coordination using a drawing instrument. Day 1 was compared to the last day of class.

Subjects 11, 13, 14, and 22 showed good shape, form, and placement of the parts to the whole. These findings were consistent from day 1 to the final class.

Subjects 21, 23, 24, and 25 drawings appeared as random lines with no definitive parts of a human face. These drawings were similar from day 1 to the final yoga class.

Subject 12 had a random mix of lines on day 1 but evidenced parts of a face on the last day of class.

### Subjective Evaluation by Parent

Parent observations at the beginning and end of the yoga sessions included their child's interest in coming to class, participation in all aspects of the class, able to follow directions, able to transition between activities, able to focus and pay attention. Observations were rated on a scale from 1 to 10 with 1 not engaged in the activity at all, 5 showing the activity and skill emerging, and 10 that the activity and skill was mastered.

Of the 7 completed assessments, 2 children were rated 4 and 5 for interest in class. One of the 2 moved to a rating of 10 at the end of the sessions. The other child remained at the same levels for all observations at the end of the sessions.

While the remaining 5 children were rated 6 or above on all 5 observation categories, 60% showed some improvement at the end of the sessions.

In comparison to other weeknights, the parent's observation on the night after a yoga class ranged from higher, lower or inconsistent energy levels. The same variability of observations was noted for sleep habits, appetite, verbal ability, and assertiveness. However, the narrative comments tell a more meaningful story of their children.

Comments such as:

“\_\_\_\_\_ loves this class, it has become an important part of his week; he uses his breathing when stressed.”

“Great class! Thanks for your patience and creative approaches to refocus.”

\_\_\_\_\_ .  
“He has music and yoga back to back, so he's tired after class.”

“Alisa was a great instructor ! A great class !”

“This has been a very good experience for\_\_\_\_\_. She looked forward to class each week. It has helped\_\_\_\_\_ be more in tune to her sensory system.”

Putting an objective value on such comments is impossible yet such quotes tell part of the story of the importance of a yoga class for their children.

## DISCUSSION

This pilot study on the effect of yoga with a small group of children with special needs showed a significant group systolic blood pressure decrease following the series of weekly yoga classes. It is tempting to suggest that a cardiovascular conditioning effect

took place. Such speculation needs further investigation. Searching the literature has not yielding comparative findings at this time. Group diastolic blood pressure remained stable over this period. The finding of this apparent stability of the relaxation phase of the cardiac cycle suggests a different mechanism to that of the contractile cardiac phase. Group heart rate was also stable over the 10 weekly yoga classes. The meditative phase of the yoga classes did not seem long enough to result in the systolic blood pressure significant changes (Wallace, 1972).

It was speculated that skin conductance levels (SCL) would be sensitive to the type of yoga training in this study. This indirect measure of sympathetic nervous system arousal did not show significant changes. The subjective observations of both parents and the yoga teacher suggested some measure of arousal control. Studies have shown the sensitivity of using SCL as an indicator of arousal levels (McIntosh, 1999; Miller, 1999).

Therefore, the non-significant findings in the pilot study encourages further investigation.

The significant decrease in eye-hand coordination in this study was somewhat of a surprise. Speculation was that the children would improve impulse control and eye-hand steadiness. Although, if the length and intensity of the yoga classes was long enough to cause physical fatigue then increased tremor would likely manifest itself (James, 1983). Strength and endurance may have also been a factor in the present yoga study. Several of the children seemed to lack upper extremity strength and stamina.

The subjective findings are encouraging. However, it must be reinforced that a pilot study of this nature does not indicate a cause and effect relationship between yoga training and the outcome measures. Future study should include a larger subject population, control for secondary programs, and in particular the use of a matched control group of children. A number of the original group of children are continuing to take yoga training.

Trying to connect yoga practice to an outcome measure is a challenge. An interconnection of the body, mind, and emotion likely takes place in yoga practice. This interconnection needs to be recognized in any research study and presents a challenge for any statement of a single effect (McCall, 2004).

In order to overcome the apparent limitations of the present pilot study, it may be valuable to study a larger matched group of children.

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