YOGA FOR CYSTIC FIBROSIS: A PILOT STUDY

Bridging Yoga Therapy with Physical Therapy

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WHAT IS CYSTIC FIBROSIS?
CF is a genetic disease.
AVG. EXPECTANCY 37 yrs

I'm 22
UNIVERSITY OF SOUTHERN CALIFORNIA is one of 110 CF Care Centers in the United States
The defective protein in the gene causes the body to produce a thick, sticky mucus that clogs the lungs and obstructs the pancreas.
CYSTIC FIBROSIS PRIMARILY AFFECTS THE RESPIRATORY AND DIGESTIVE SYSTEMS
SIDE EFFECTS OF CF CAN INCLUDE:

- Osteoporosis
- Hyper kyphosis
- GERD (gastroesophageal reflux disease)
- Digestive disorders
- Shortness of breath
- Persistent coughing
- Fatigue
- Low body weight
YOGA STUDY FOR OLDER ADULTS
Yoga Empowers Seniors Study – YESS!

Why did we do this research study?

The main reasons we conducted this study were to quantify the physical demands and functional performance adaptations (e.g. changes in strength, balance, etc) of a 32-week yoga program designed for community-dwelling older adults.

The physical demands and functional performance adaptations were assessed using biomechanical investigation (described further below).

Our goal is to use data from the study to develop evidence-based Yoga programs for ambulatory seniors. We hope that evidence-based programs will be associated with fewer musculoskeletal side effects compared to Yoga programs that are not guided by an evidence base.

Read More »
OSTEOPOROSIS PRECAUTIONS
while prone

Avoid compressing ribs
Open shoulders and chest
KYPHOSIS MODIFICATIONS
for thoracic/shoulder ROM while standing
GERD PRECAUTIONS: NO FORWARD FOLDS RESTING POSE AND DOWNDOG ALTERNATIVE

“Jockey Pose”

Neutral spine

Hip flexion

Knee flexion

Feet mat width apart
CF YOGA PROGRAM GOALS

- INCREASE LUMBAR STABILITY
- INCREASE SCAPULAR STABILITY
- INCREASE THORACIC MOBILITY
- INCREASE BREATH CAPACITY

STRESS RELIEF
YOGA SCHEDULE

• 8 weeks
• Twice a week in the evening
• 90-minute classes
YOGA SEQUENCE

1. Supported final rest
2. 3-part breath in final rest
3. Easy pose and ROM
4. Breath of fire
5. Mountain with block
6. Sun salute C modified
7. Tree
8. Warrior 2
9. Reverse Warrior
10. Triangle
11. Extended side stretch
12. Dancing warrior vinyasa
13. Jockey pose
14. Mountain pose eyes closed
15. Eagle
16. Crescent
17. Jockey
18. Plank or all four’s
19. Low/high lunge twist
20. Modified pushup/knees down
21. Cobra
22. Supported child’s pose
23. Ab Cultivation/bicycles
24. Hamstring stretch with strap
25. Supine pigeon/thread the needle
26. Windmill twist
27. Supported supine bound angle
28. Simple twist
29. Supported final rest
A PICTURE IS WORTH 1,000 WORDS
SURYA NAMASKARANA “C”
NO forward folds or weight on wrists
SURYA NAMASKARA “C”
modifications continued
“DANCING WARRIOR” VINYASA
RESTING POSE AND DOWNDOG ALTERNATIVE

“Jockey Pose”

Neutral spine

Hip flexion

Knee flexion

Feet mat width apart
BREATHING TECHNIQUES

• Sama vritti/even turning breath
• Deerga/3-part breath
• Kapalabhati/breath of fire
• Exhale extension
SAMA VRITTI AND DEERGA BREATH
in supported final rest to open class
KAPALABHATI/BREATH OF FIRE in Easy Pose
EXTENDED EXHALATION
in all finishing/restorative poses
CROSS-INFECTION PREVENTION
SEEING IS BELIEVING
Feasibility of Practicing Yoga for CF

• Distant location
  – 7-Subjects enrolled and completed study
  – Average participation rate: 66%
    • Attendance range from 19 to 94%
  – Yoga and exercise intervention will be most effective closer to home location

• Caution Recommending Yoga for CF
  – Typical community practice of Yoga
  – Precautions and required education for persons with CF
  – Potential adverse effects
Results: Chest Wall Excursion

* p < 0.05

Baseline: 81.8
Follow-up: 83.3
Results: Scapular Positioning

Scapular Positioning (cm)

Baseline: 8.41
Follow-up: 7.84

* p < 0.05
Results: LE Performance
Sit to Stand Test (30 sec.)

Baseline: 15.4
Follow-up: 17.6

* p < 0.05
Results: CFQR

CFQR: Weight Domain

* p < 0.05

Baseline: 38.1
Follow-up: 71.4

USC Division of Biokinesiology and Physical Therapy
TESTIMONIALS

• ONE PARTICIPANT SAID, “THIS HAS CHANGED MY LIFE”; AND

• ANOTHER REPORTED THAT “WE ALL LAUGHED A LOT MORE BY THE END OF THE STUDY.”
WHERE DO WE GO FROM HERE?
PRACTICAL CONSIDERATIONS

- Perfect, sunny weather
- Outdoor space to keep participants apart
- Hand sanitizer and kleenex
- Personal props to travel with
POSSIBILITIES

• Create streaming online content for patients with CF

• Create an instructional DVD to teach teachers how to develop yoga programs for people with CF

• Create an online program for teachers

• Create a scaled-back, further modified program for CF patients in the hospital

• Teaching this practice at CF conferences
GENERAL TEACHING TIPS

https://www.youtube.com/watch?v=Gdk-DsUGJt8

or

www.lesliekazadi.com and subscribe to my YouTube
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Children's Hospital Los Angeles
Yoga Improves Posture and Physical Performance in Adult Persons with Cystic Fibrosis

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IF THE ONLY PRAYER YOU EVER SAID WAS THANK YOU, THAT WOULD BE ENOUGH.

Thank you!
Leslie Kazadi