

# Adapted-Yoga at the YMCA

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Dr. Miller & her collaborators have no financial conflicts to disclose.

## Objectives & Plan

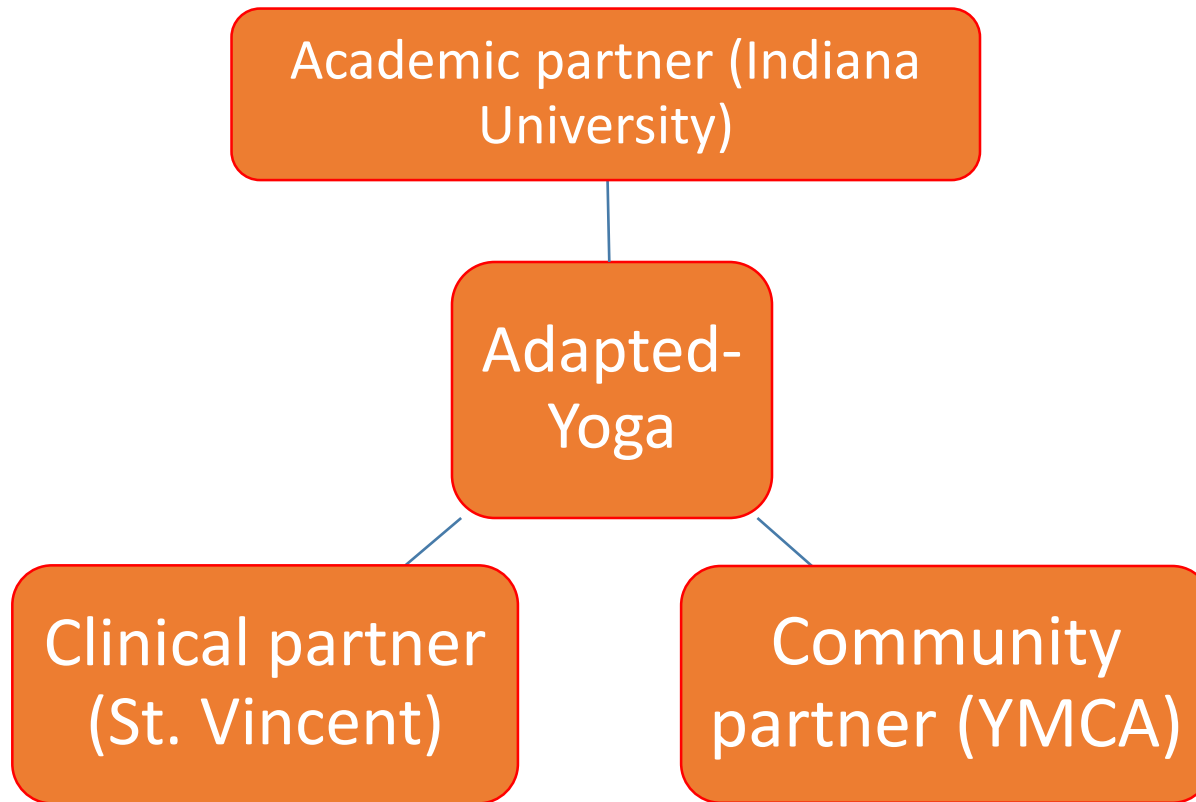
Learners will:

- Describe potential benefits of adapted-yoga as a post-rehabilitation community-based program for persons with acquired brain injury
- Describe advantages of an academic/clinical/community partnership
- Describe potential challenges of an academic/clinical/community partnership

Today we will:

- Review data from implementation of adapted-yoga at the YMCA
- Discuss various stakeholders' perspectives on feasibility and value of adapted-yoga at the YMCA

# Think Collaboration/Partnership!!



Long-term Objective: Establish a sustainable post-rehabilitation adapted program at the YMCA

## Why A Partnership?

*“to be in a group where others are likewise working to overcome a handicap; versus going to a formal yoga class and trying to do what I can, but to have the assistance and program to fully participate, that really sets it apart.”*

(Research subject explaining why they would participate in an adapted group yoga class if it were regularly offered at the YMCA)

## Partnership Challenges

- Wellness vs rehabilitation jargon
- Staying true to the modality (yoga) with adaptations
- Letting 'patients' direct their exercise plan
- Health related precautions
- Trust – appropriate patient selection/consult as needed for patients referred to adapted program
- Trust – safety and quality of adapted program

## Why Adapted Programming in the Community?

- Shorter rehabilitation LOS
- Patients returning home with significant limitations in function
- Low patient adherence with traditional HEP
- Patients adapting sedentary lifestyles
- Patients returning to physical rehabilitation
- High hospital re-admission rates
- Lack of consistent transition management for patients  
Rehab to Home.

# Methods

Adapted Yoga at the YMCA: Phase 1



# Aims

- Determine immediate efficacy of community-based adapted group yoga to physical performance in people with neurological health conditions
  - Evaluate secondary rehabilitation outcomes
- Establish that adapted-yoga will be feasible and safe for people with neurological health conditions in a community based setting
  - Evaluate intervention fidelity with transition to community yoga instructor

# Participants

- Adults with neurological health conditions or balance impairments
- DC from rehabilitation
- Able to sit independently
- Able to follow verbal directions or demonstration

# Intervention

- Adapted-yoga (breathing, postures, relaxation)
  - Phase 1 -2x/week for 8 weeks
  - Phase 2 – 1x/week for 12 weeks



# Data Collection

## Phase 1

- 2 assessments (baseline & 8-weeks)
  - Balance, walking speed & endurance, activity & participation, balance confidence
- Focus group (after 8-weeks of yoga)
  - Open ended questions to determine participant perception of feasibility and benefit
- Intervention fidelity
  - Compare video of current class to standardized intervention protocol

## Phase 2

- 3 assessments (baseline, post-yoga, & 12-week follow-up)
  - Balance, walking speed & endurance, activity & participation, balance confidence
- Semi-structured interviews (post-yoga & 12-week follow-up)
  - Open ended questions to determine participant perception of feasibility and benefit

# Data Analyses

- Demographic data
  - Descriptive statistics
- Outcome measure data
  - Pre/post - paired t-test,  $p=0.05$
  - Pre/post/FU – RM-ANOVA,  $p=0.05$
- Focus group/semi-structured interview data
  - Content analysis approach

# Results

Adapted Yoga at the YMCA: Phase 1

# Demographics

- Enrolled 17 people, 12 (70%) completed

Variable	Value
Age (years)	29-63 (52)
Time since injury (months)	10-82 (37)
Diagnosis (CVA)	10 (83%)
Gender (male)	7 (58%)
Side of hemiparesis (left)	8 (66%)
Race (white)	11 (91%)
Marital status (married)	8 (66%)
Level of education (college graduate)	5 (41%)

# Outcome Measure Results

Variable	Baseline	Post-yoga	P-value
Berg Balance Scale	31 ± 13	43 ± 10	<0.0001
Dynamic Gait Index	11 ± 4	15 ± 4	<0.0001
Trunk Impairment Scale	11 ± 4	18 ± 3	<0.0001
Activities Specific Balance Scale (%)	58 ± 27	63 ± 23	0.142
6MWT (meters)	147 ± 124	179 ± 149	0.028
10MWT (m/s)	0.68 ± 0.56	0.69 ± 0.52	0.91
ICF Activity	34 ± 5	34 ± 5	0.627
ICF Participation	18 ± 3	19 ± 3	0.321



# Focus Group Results

- Participant endorsed benefits
  - Physical functioning
  - Peer support
  - Assistance to fully participate
- Participant Suggestions for improvement
  - Group classes by physical ability
  - Class equipment
  - More adapted options

# Results (Preliminary)

Adapted Yoga at the YMCA: Phase 2

# Demographics

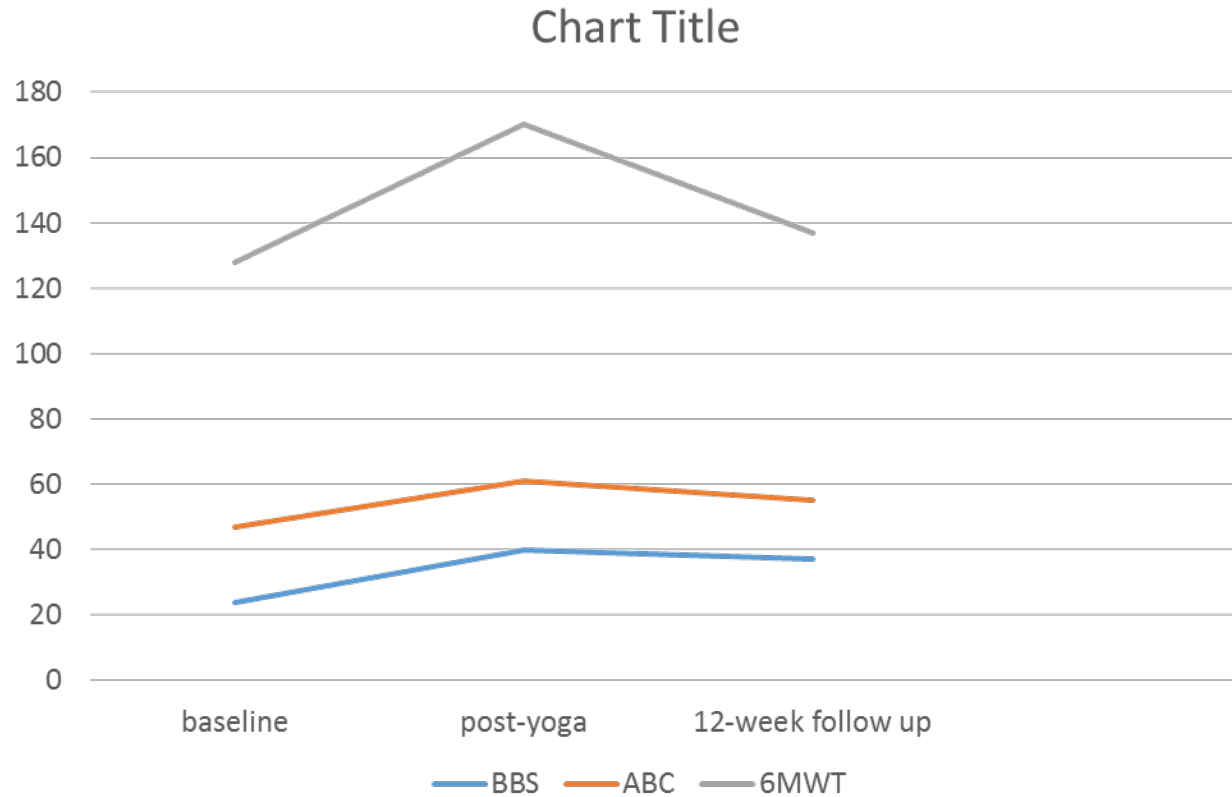
- Enrolled 26 people to date; These analyses include first 10 to complete phase 2

Variable	Value
Age (years)	30-87 (56)
Time since injury (months)	11-624 (118)
Diagnosis (CVA)	10 (83%)
Gender (male)	4 (40%)
Race (white)	9 (90%)
Marital status (married)	6 (60%)
Level of education (college graduate)	6 (60%)

# Outcome Measure Results (pre/post)

Variable	Baseline	Post-yoga	P-value
Berg Balance Scale	24 $\pm$ 9	40 $\pm$ 7	<0.0001
Dynamic Gait Index	9 $\pm$ 2	14 $\pm$ 2	0.001
Trunk Impairment Scale	11 $\pm$ 3	15 $\pm$ 3	0.002
Activities Specific Balance Scale (%)	47 $\pm$ 22	61 $\pm$ 18	0.025
6MWT (meters)	124 $\pm$ 78	167 $\pm$ 108	0.073
10MWT (m/s) (c)	0.39 $\pm$ 0.2	0.43 $\pm$ 0.3	0.539
10MWT (m/s) (f)	0.51 $\pm$ 0.3	0.56 $\pm$ 0.4	0.627
IMPACT	61 $\pm$ 11	53 $\pm$ 9	0.011

# Outcome Measure Results (RM-ANOVA)



# Next Steps

- Structured transition from adapted class to other YMCA programs
- Sustain maintenance adapted-yoga
- Develop other adapted programs
  - Exercise modality
  - Target population

# Conclusion

- Adapted-yoga is feasible and safe in a community-base setting
- Adapted, community-based yoga may be effective for improving balance scores
- Community-based programs need to be adapted to allow full participation
- Collaboration between stakeholders is needed to develop meaningful adapted community-based exercise programs



TIS: 4 point increase  
BBS: 16 point increase  
DGI: 3 point increase



# Collaborators & Study Staff

- YMCA of Madison County, Indiana
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  - Carol Hanna, CYT
- St.Vincent Hospital, Anderson Regional Campus
  - Joni Breeden, OTR, Rehabilitation director
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  - Cara Schaadt, LHSI intern

Thank you!

Questions/Comments