

Ohio Employee Health & Wellness Conference
August 23, 2022

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Phy Health is the most advanced MSK assessment technology in the world

- 8 years of R&D in Computer Vision and Machine Learning
- Over 20 years of clinical best practices
- A family of global patents
- Industry leading clinicians and engineers

Healthcare costs are projected to rise 11% in 2023

Musculoskeletal (MSK) Disorder is a top 3 healthcare cost & condition for Fortune 1000 companies

MSK Disorder affects 1 out of 2 US Adults

MSK Disorder affects job performance, and is the leading cause of presenteeism and absenteeism



Clinicians Struggle with Diagnosing Musculoskeletal Disorders.

60% Of MSK Misdiagnosed by Primary Care Physicians

40% Of MSK Misdiagnosed by Orthopods

35% Of MSK Misdiagnosed by Physical Therapists

>50% Orthopedic Procedures Are Inappropriate or Unnecessary



Why is MSK often misdiagnosed?



Imaging Technologies

Fractures



X-Ray

Organs
Vessels
Tissues
Fetuses



Ultrasound

Brain
Tumors
Abscesses
Blood Vessels



CAT

Cancers
Blood Flow
Heart Disease
Brain Disorders



PET

Organs
Soft Tissue



MRI

Kinetic Chain
Movement Under load



Musculoskeletal Disorder's (MSD) Impact on Employers

\$600B

Spent Each Year on
Traditional MSK Treatments

1 In 2

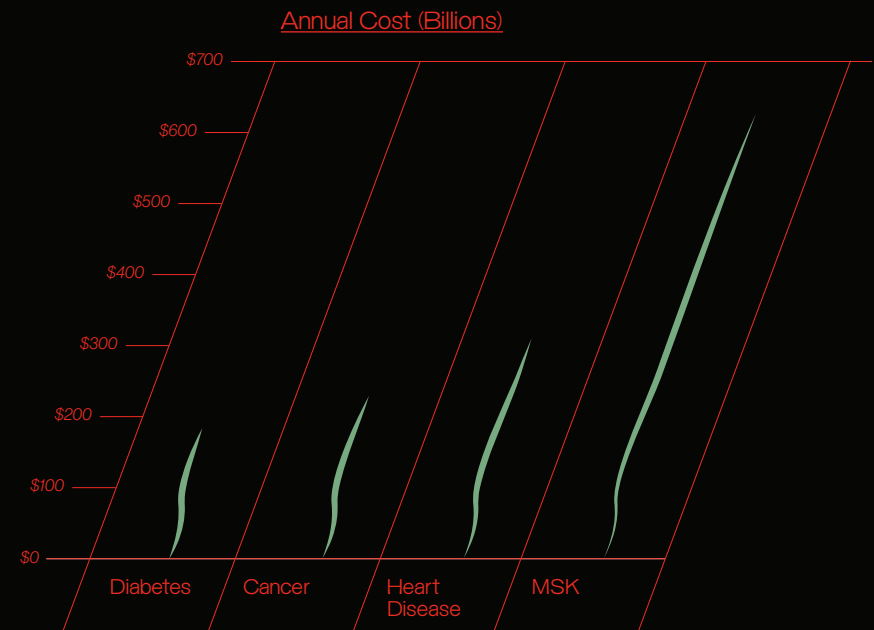
US Adults Suffer From
MSDs

\$425

Spent on MSK Related Medical
Bills per Employee per Year

\$31,480

The Average Direct Cost for MSK
Treatment per Episode per Year



MSK Disorder is the only healthcare cost and condition that can be reduced in weeks.






MSK Disorder is the only healthcare cost and condition that can be reduced in weeks.



Wellness is Prevention

The only holistic, volumetric, data-driven solution for screening, prevention, and treatment of the body today and tomorrow.

		Screen	Prevention	Treatment
MSK				
Hypertension		Blood Pressure Monitor	Diet & Stress Reduction	Medication
Heart Disease		Cholesterol	Diet & Exercise	Medication
High Risk Pregnancy		Pregnancy Risk Assessment	Pre-Natal Supplements	Blood Pressure Monitoring
Cholesterol	A1C	Diet & Exercise	Medication	



Pain Reduction

Surgery & Imaging
Reduction

Depression &
Anxiety Reduction

Opioid & Pain
Medication Reduction

Measurable ROI

Presenteeism &
Absenteeism Reduced

MSK Causes



What causes musculoskeletal pain?



Foot position

Wide | Staggered | Duck



Narrow | Staggered | Pigeon



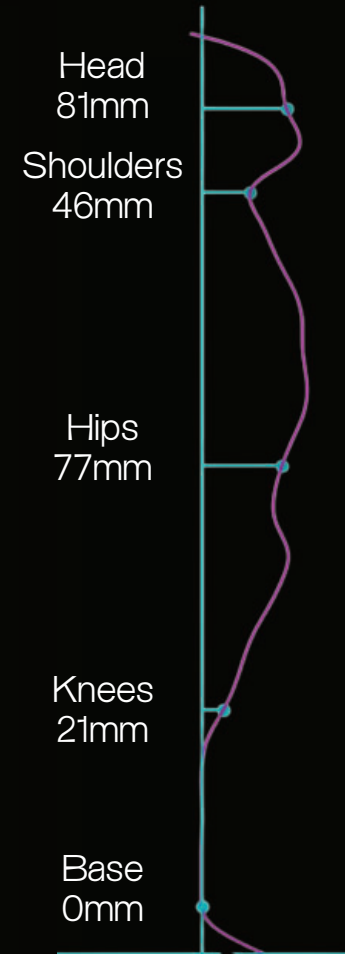
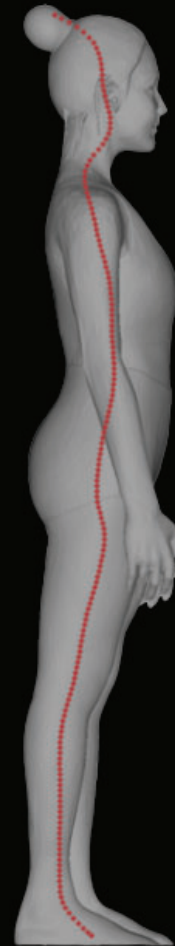
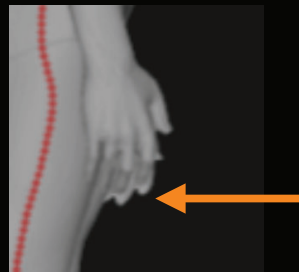
Normal | Duck



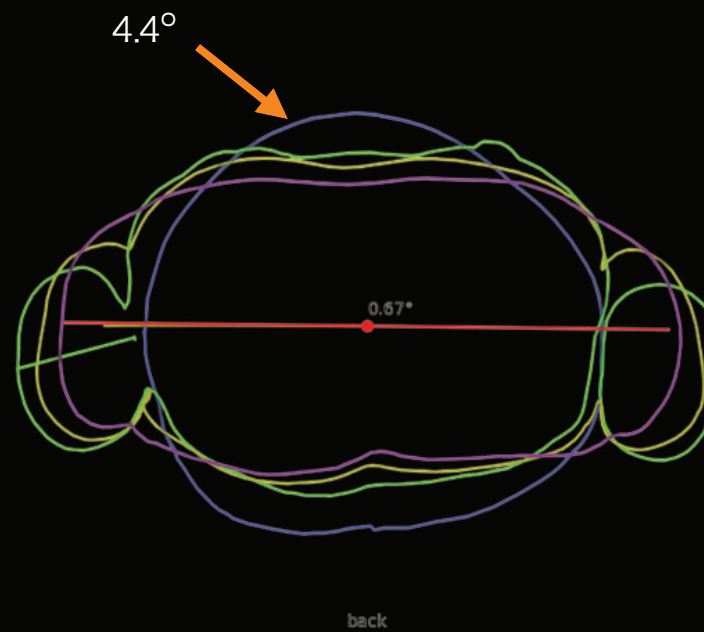
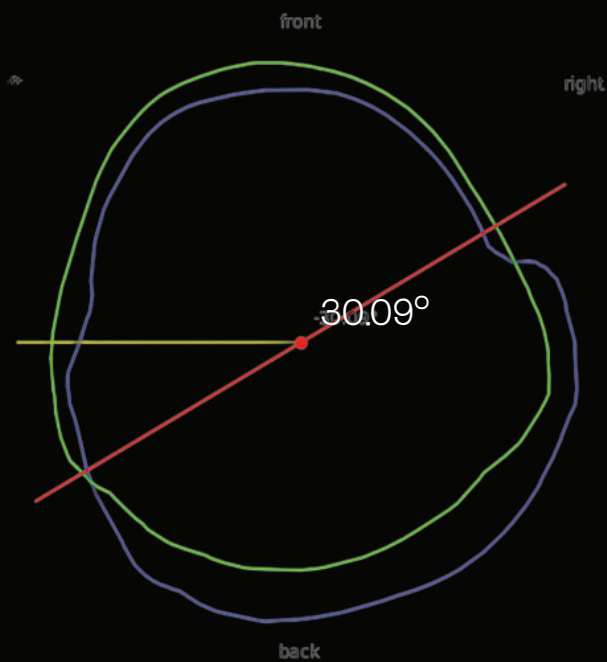
Exercise #1



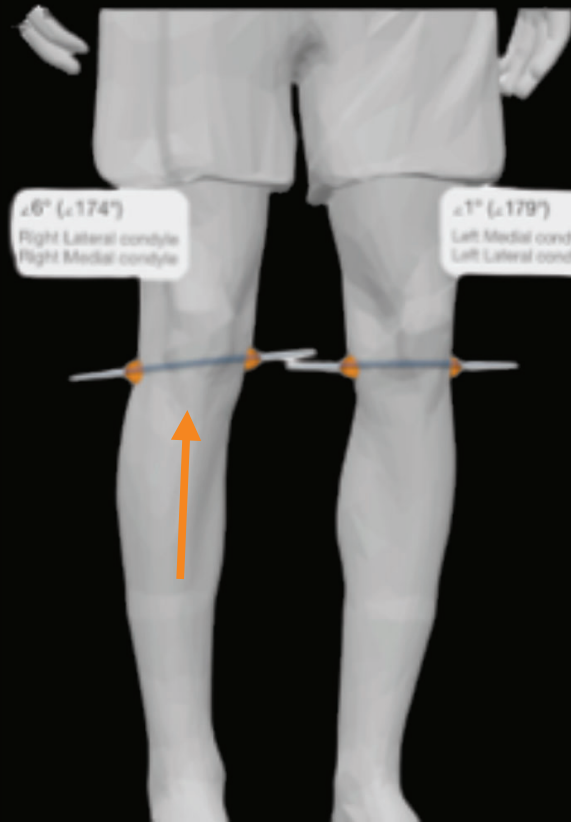
Vertical Load



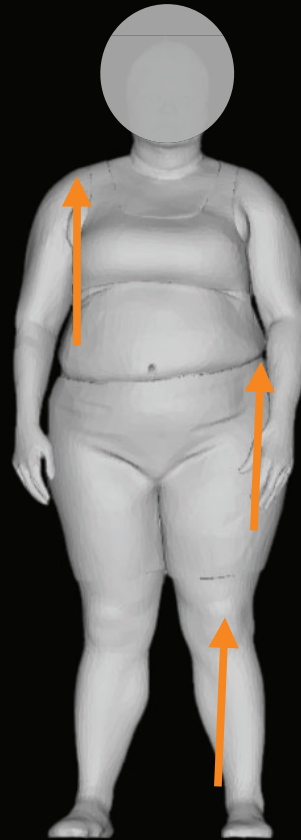
Rotation



Imbalances



Over-Working / Under-Working



Exercise #2



Phy



Scanning

Presently, scanning takes place in two deployments: Phy Lab and Mobile.

The scan takes 3 minutes.



Phy Lab

- iPhone + Lidar Amplifier (Microsoft Kinect Camera)
- Scalable + deployed
- Automated assessment processing in less than 30 mins

Mobile

- iPhone 12 or later
- Semi-automated assessment processing in less than 24 hours
- Alpha deployed
- Full automation complete by EOY

Phy Health has taken a quantum leap forward in 3D Volumetric Capture

The Phy Platform will Become the Default Platform for Payors, Providers and Employers

Phy's Approach

Phy collects 400k+ landmarks of the body in motion

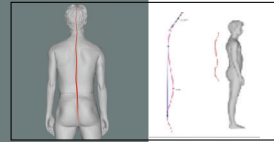
The 3 minute scan identifies and measures:

THE KINETIC CHAIN

- Entire muscle, bone, joint and fascial connectivity
- Misalignment
- Over-rotation at the trunk and waist
- Atrophied or overcompensated muscles

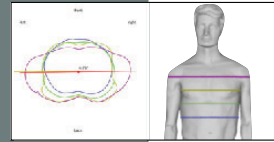
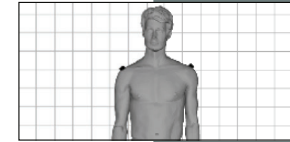
"DEFORMATION" CAPTURE

How the body moves structurally while in motion



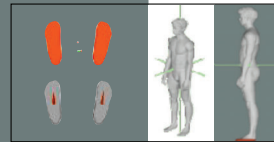
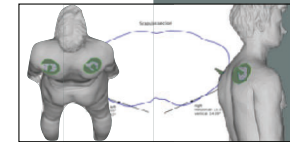
Spinal Curvature •

• Shoulders



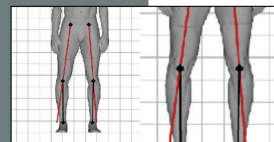
Rib Cage Position •

• Scapula



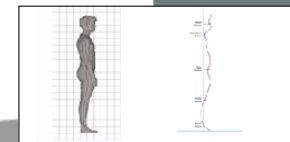
Center of Volume •

• Pelvic Position



Knee Position •

• Vertical Load



Feet Position •

• Achilles Tendon Mapping



System

Phy Health is the Platform for Facing MSK Pain.

Phy Scan

Patented 3D Volumetric Scan in
3 minutes collects 400k points
on the body



Assessment

Patient reported symptoms:

- Right hip
- Shoulder pain
- Lower back pain when standing

+

Phy scan-identified symptoms:

- Elevated right hip
- Right rotated thoracic spine
- Valgus stress at knees
- Right Shoulder Elevated /
Protracted Scapula
- Asymmetrical stance

Phy Assessment



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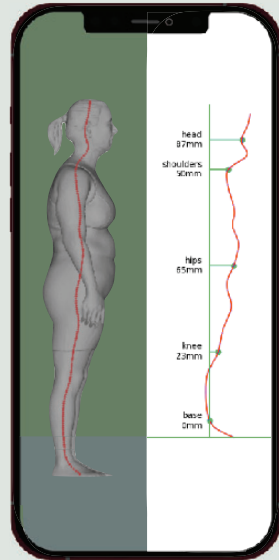
Phy Scan

Patented 3D Volumetric Scan in
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Assessment

Precise measurement identifies
misalignment, over-rotation, and
atrophied muscles down to the
sub-millimeter



Phy Assessment



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Phy Health is the Platform for Facing MSK Pain.

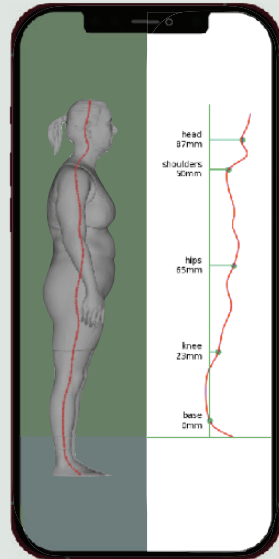
Phy Scan

Patented 3D Volumetric Scan in 3 minutes collects 400k points on the body



Assessment

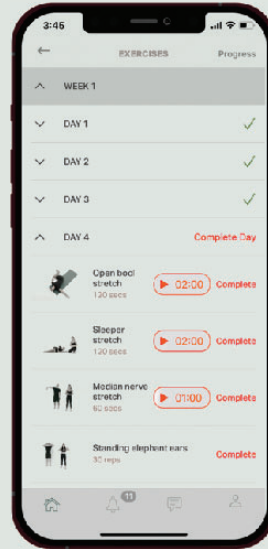
Precise measurement identifies misalignment, over-rotation, and atrophied muscles down to the sub-millimeter



Phy Assessment

Movement Plan

Phy machine learning engine recommends a phased set of exercises based on the body's specific composition



Phy Restorative



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System

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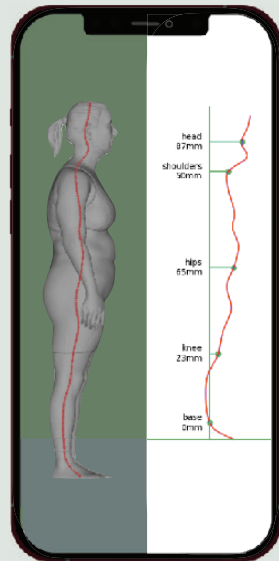
Phy Scan

Patented 3D Volumetric Scan in 3 minutes collects 400k points on the body



Assessment

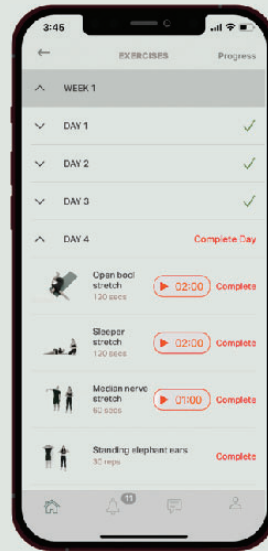
Precise measurement identifies misalignment, over-rotation, and atrophied muscles down to the sub-millimeter



Phy Assessment

Movement Plan

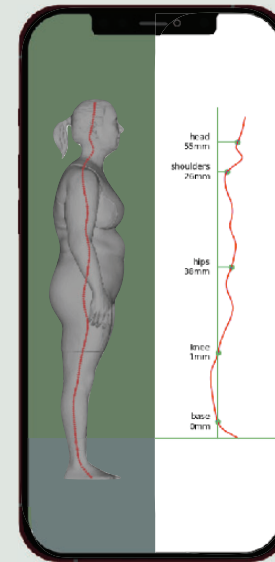
Phy machine learning engine recommends a phased set of exercises based on the body's specific composition



Phy Restorative

Re-Scan

Comparisons of the before and after scan objectively measure the efficacy of the intervention



Phy Insight



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System

Phy Health is the Platform for Facing MSK Pain.

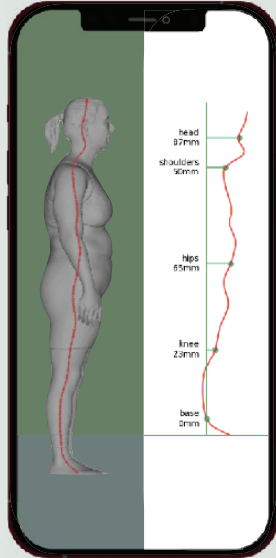
Phy Scan

Patented 3D Volumetric Scan in 3 minutes collects 400k points on the body



Assessment

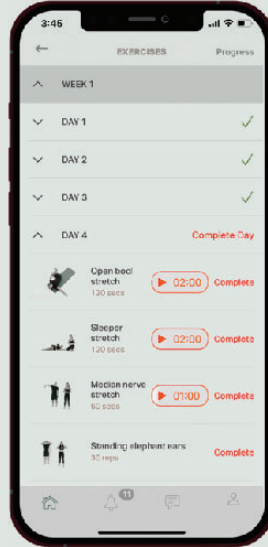
Precise measurement identifies misalignment, over-rotation, and atrophied muscles down to the sub-millimeter



Phy Assessment

Movement Plan

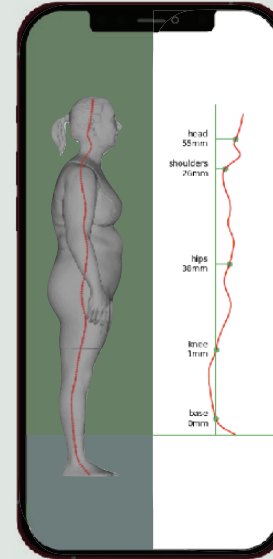
Phy machine learning engine recommends a phased set of exercises based on the body's specific composition



Phy Restorative

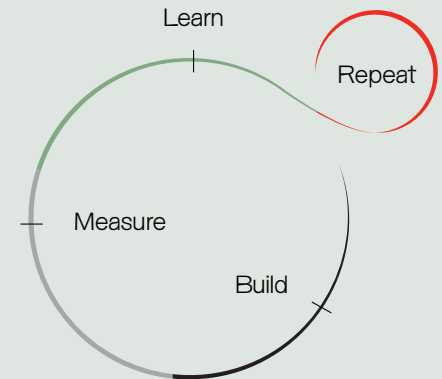
Re-Scan

Comparisons of the before and after scan objectively measure the efficacy of the intervention



Machine Learning Loop

Phy's Machine Learning algorithms analyze movement plan assignment and iterate based on re-scan and engagement data



Phy Insight



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Mount Carmel



Mount Carmel

40 Employees Scanned & Assessed

High Engagement and
High Net Promotor Score

95% Opt in for
Coaching

95% Complete
Phy Coaching

57% Notice a Decrease in Pain
within 2 Weeks

95% Notice a Decrease in Pain
within 8 Weeks

100% Saw Noticeable
Improvement

100% Would Recommend Phy to
Friends or Colleagues

"I expected physical therapy and cortisone injections were in my future. What I did not realize is just how poor was my posture, range of motion in my shoulder, back and other extremities, and core muscle weakness. Phy was able to show these to me in an objective manner. Within a few weeks of working the daily program, my shoulder pain was markedly improved, range of motion and strength were markedly improved, and was no longer experiencing the stiffness and pain when getting out of bed or a chair. I am hopeful to put off PT and injections indefinitely.
—Medical Director, Mt. Carmel Medical Group



Pain Scale Definitions

0 – I have no pain

1 – Minimal (My pain is hardly noticeable)

2 – Mild (Low-level pain. Only noticeable when I pay attention to it)

3 – Uncomfortable (My pain bothers me but I can ignore it most of the time)

4 – Moderate (Constantly aware of my pain but able to continue most activities)

5 – Distracting (I think about my pain most of the time. Unable to do some of the activities I need or want to do)

6 – Distressing (I think about my pain all the time. I give up many activities because of my pain)

7 – Unmanageable (In pain all the time. It keeps me from doing most activities)

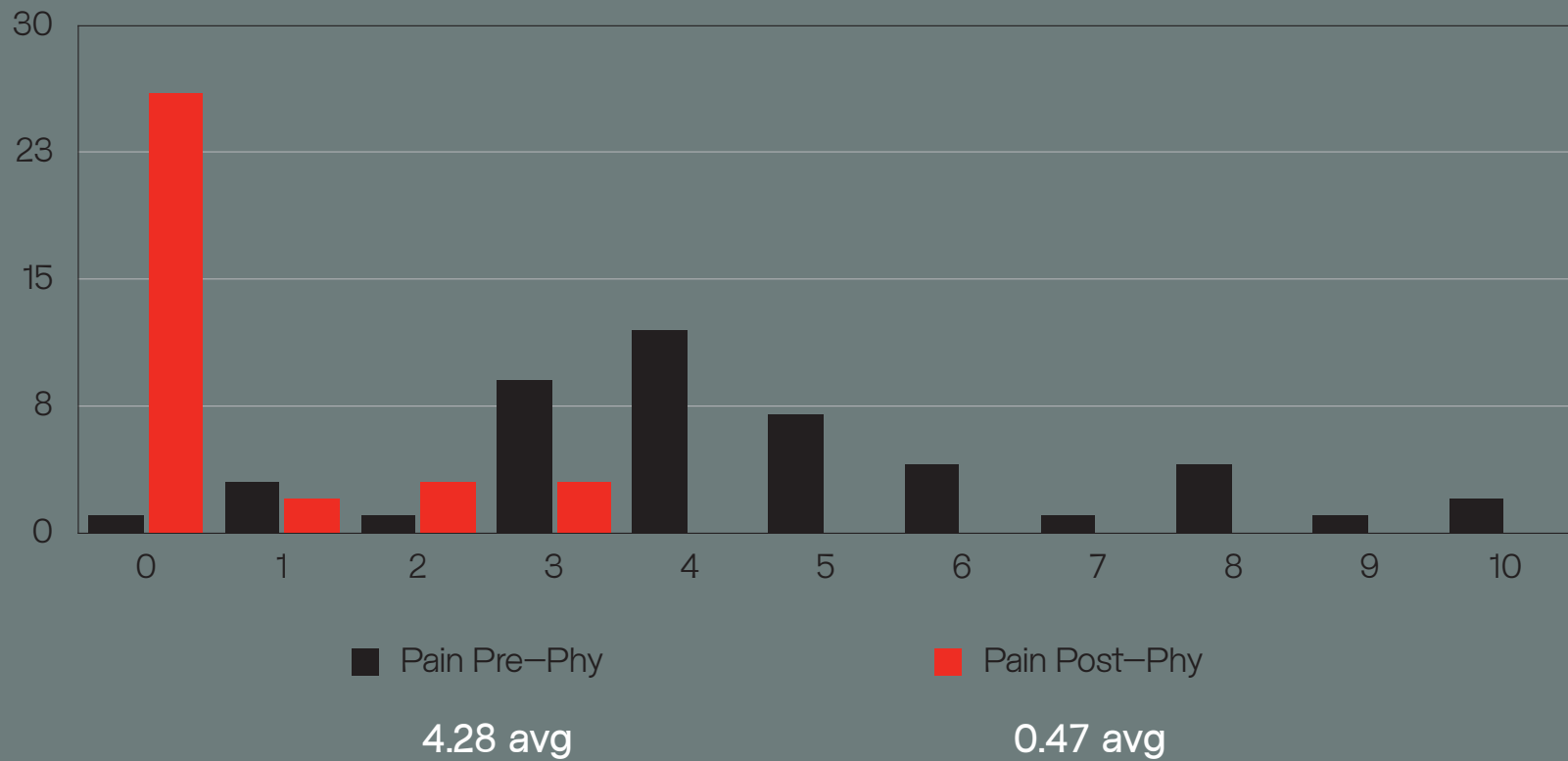
8 – Intense (My pain is so severe that it is hard to think of anything else)

9 – Severe (My pain is all that I think about. I can barely talk or move because of it)

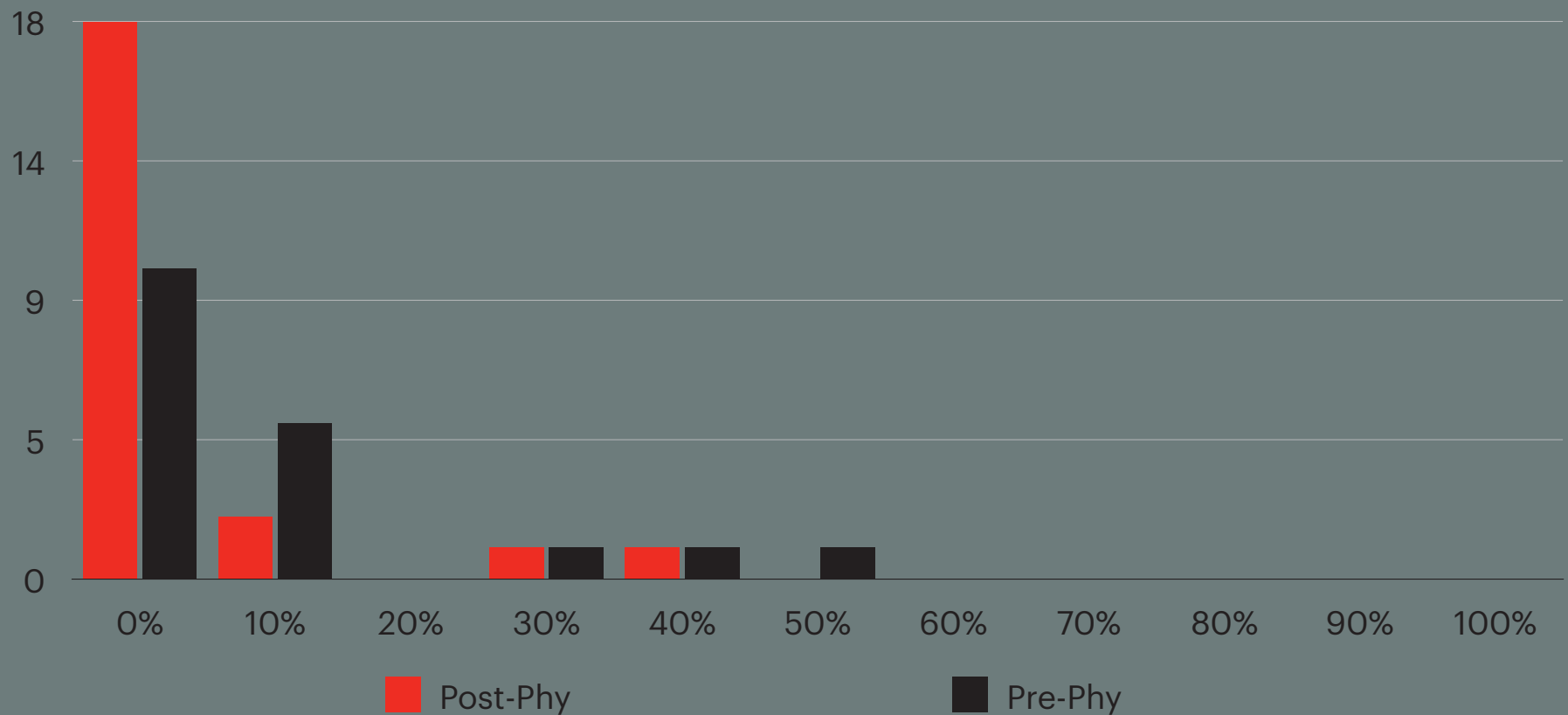
10 – Unable to Move (In bed and cannot move because of my pain. I need someone to take me to the hospital)



Pain Before and After Phy



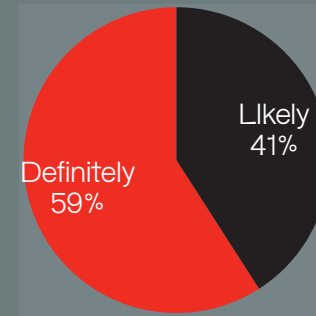
What Is the Likelihood You Will Need Surgery Within the Next Year?



Summary Results

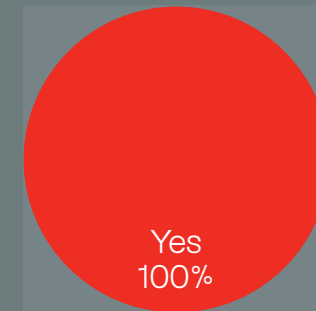
How likely are you to continue doing your Phy Movement Plan?

Definitely Not | Not Likely | Neutral | Likely | Definitely



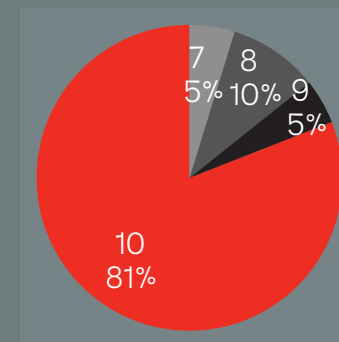
Would you like to see Phy offered as a wellness benefit at MCHS?

Yes | No



Would you recommend Phy to friends and family?

1 = Definitely Not | 10 = Definitely

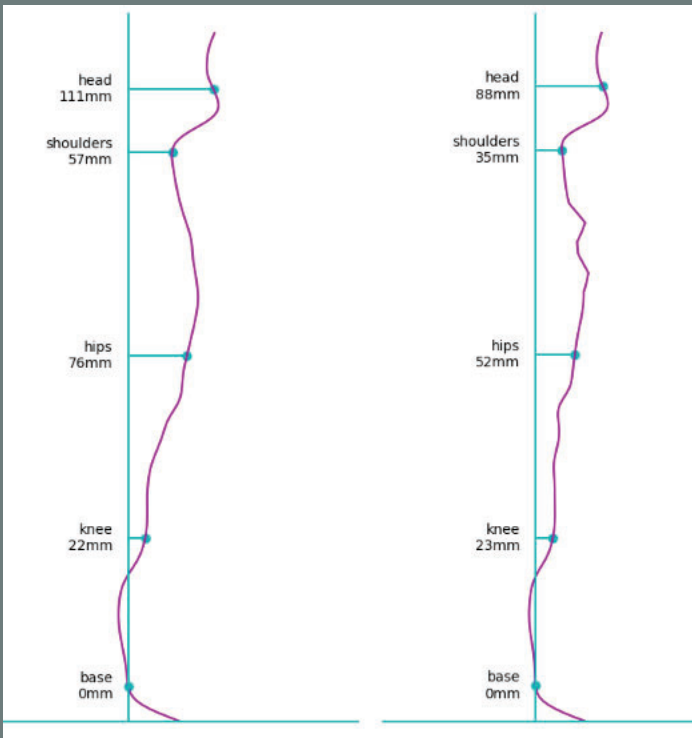


Case Studies

73 Year Old Man

Pain Source	Lumbar, herniated disc
Area(s) of Focus	Reduce hip rotation
Starting Pain	5
Ending Pain	0
Will you continue to do Phy?	Definitely
Would you like to see Phy as a benefit?	Yes
Would you recommend Phy?	10 out of 10

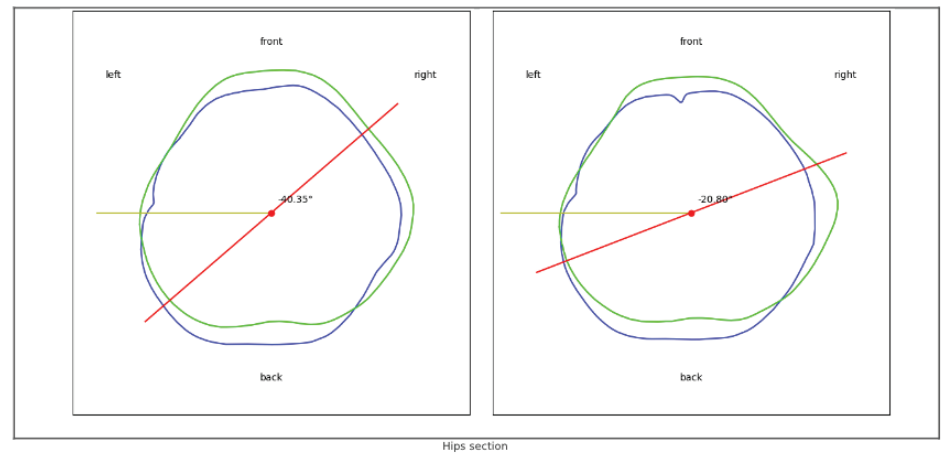
Surgery Avoided



"In January, I was told I would need a laminectomy of L-2 thru L-5. I did six weeks of physical therapy with no relief. Phy program got me out of pain and I no longer need the surgery. Our coach customized our routines and changed them when needed. Because of Phy, I have more years of work left and am more active."

Right hip is 40.3 in front of the left hip.

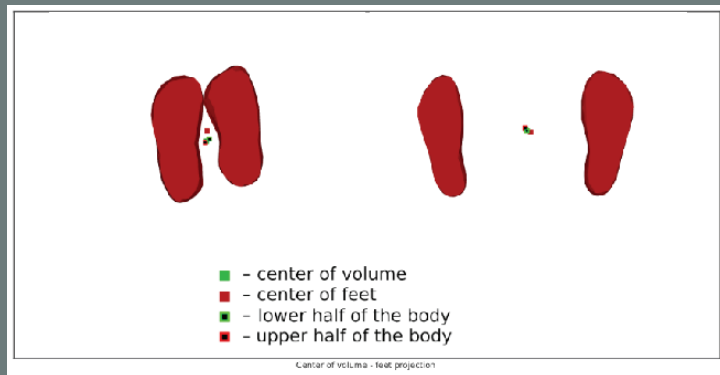
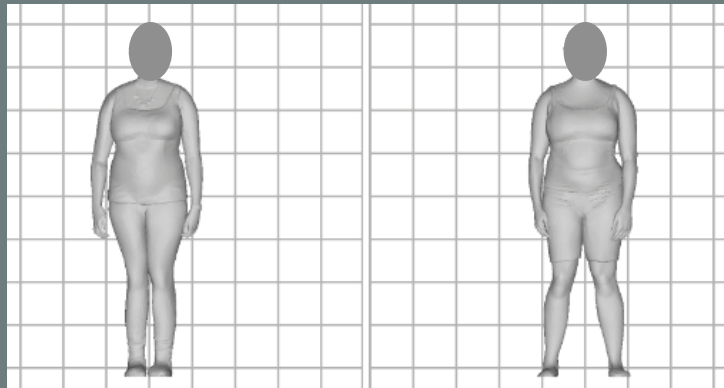
Right hip is 20.8 in front of the left hip.



31 Year Old Woman

Pain Source	Lumbar, neck, knee
Area(s) of Focus	Narrow stance, thoracic rotation
Starting Pain	3
Ending Pain	0
Will you continue to do Phy?	Definitely
Would you like to see Phy as a benefit?	Absolutely
Would you recommend Phy?	10 out of 10

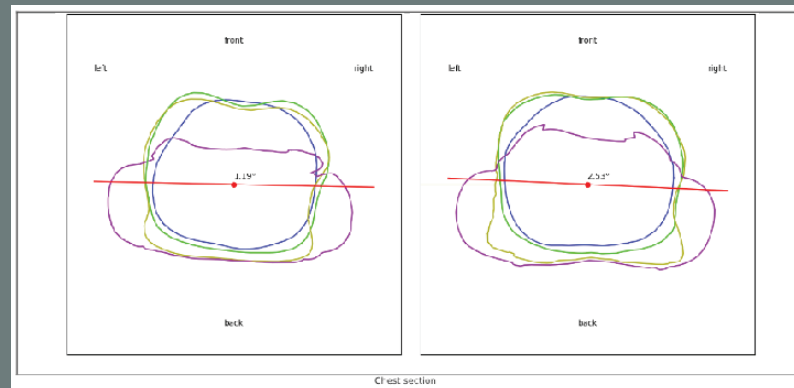
Program Compliance



"At first I wasn't sure what to expect but was definitely very amazed by how effective it is! I found it really useful to have the accountability of checking in with the coach each week. Sometimes it has been hard to fit in the time for the exercises — but still has been such a huge benefit. Robin has been amazing and supportive and a joy working with!"

Chest position

Analysis	Scan 1	Scan 2	Unit	Norm range
Rotation	1.2	7.5	° (degree)	-
11th Rib level rotation	-8.9	1.1	° (degree)	-
Nipple level rotation	3.2	6.2	° (degree)	-
Sternum middle level rotation	1.7	5.5	° (degree)	-
Cleavicular notch level rotation	3.4	2.0	° (degree)	-

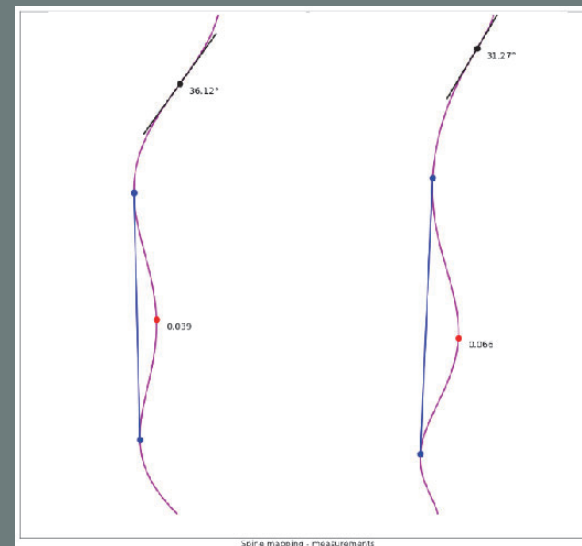
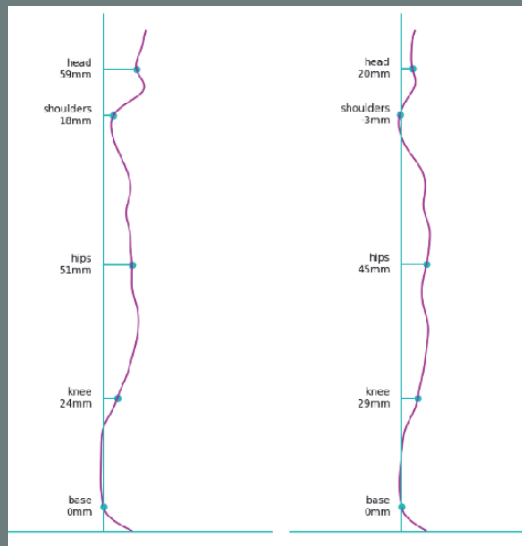


29 Year Old Woman

Pain Source	Migranes
Area(s) of Focus	Pelvis, head, & shoulders position back to increase airflow
Starting Pain	4
Ending Pain	0
Will you continue to do Phy?	Definitely
Would you like to see Phy as a benefit?	Yes
Would you recommend Phy?	10 out of 10

Presenteeism Reduced

"I can definitely do more now than before treatment. I couldn't get through my painting classes before but I was able to finish the last few with no problems. Additionally, I was able to ride in a car for over 8 hours with little pain. I feel motivated to work out and do more around the house because I no longer have migraines every day."



58 Year Old Male

Pain Source	Lumbar
Area(s) of Focus	Kyphosis, varus stress, tight hip flexors
Starting Pain	10
Ending Pain	0
Will you continue to do Phy?	Definitely
Would you like to see Phy as a benefit?	Absolutely
Would you recommend Phy?	10 out of 10

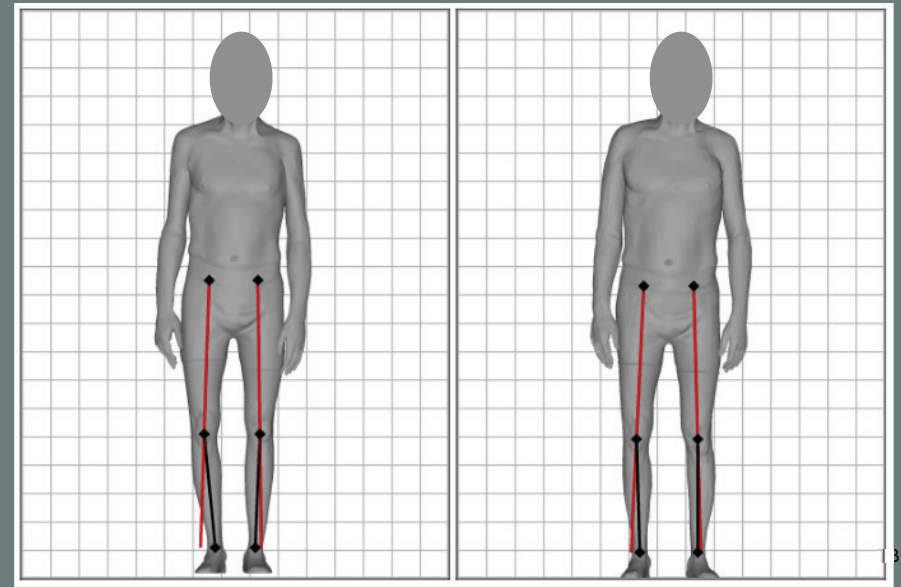
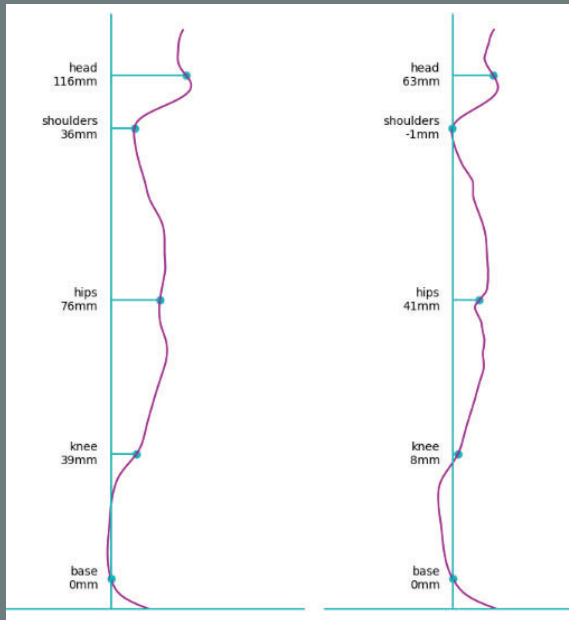
I began this journey with Phy with almost daily low back pain and stiffness. It was worse after an activity and in the morning causing me to move very slowly at first. My primary care doctor and I have previously learned the cause. Additionally, I was experiencing activity limiting left shoulder pain that I attributed to rotator cuff tendonopathy. I expected physical therapy and cortisone injections were in my future. What I did not realize is just how poor was my posture, range of motion in my shoulder, back and other extremities, and core muscle weakness. Phy was able to show these to me in an objective manner. Within a few weeks of working the daily program, my shoulder pain was markedly improved, range of motion and strength were markedly improved, and was no longer experiencing the stiffness and pain when getting out of bed or a chair. I am hopeful to put off PT and injections indefinitely. Thanks for the opportunity to experience this unique approach to back arthritis.

Physical Therapy & Injections Avoided

Legs

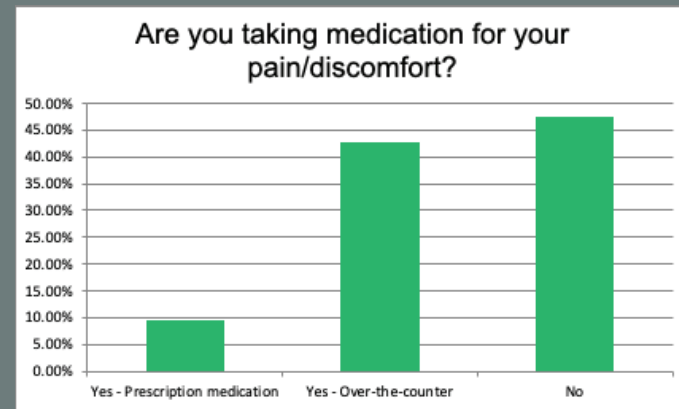
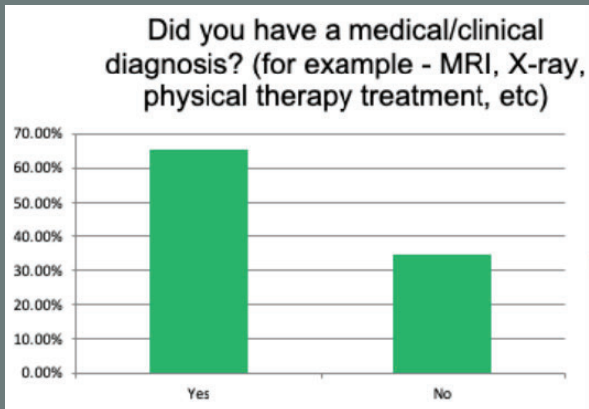
Analysis	Scan 1	Scan 2	Unit	Norm range
Left knee angle	3.2	1.5	° (degree)	-
Right knee angle	7.4	4.4	° (degree)	-

Left knee is curved 3.2 outside. Right knee is curved 7.4 outside. *Left knee is curved 1.5 outside. Right knee is curved 4.4 outside.*



ROI





	Per Encounter	Course of Care
Primary Care	\$125	\$125
Imaging	\$1,016	\$1,016
Physical Therapy	\$171	\$2,053
Total	~	\$3,194*

* Does not include prescription pain meds or surgery

Immediate Impactful ROI

Phy Participants	Retail Price of Phy Per Person	Total Retail Cost of Phy
40	\$995	\$39,800

"In January, I was told I would need a laminectomy of L-2 thru L-5. I did six weeks of physical therapy with no relief. Phy program got me out of pain and I no longer need the surgery."

Traditional MSK	Surgery & Rehab	Total Cost	Phy ROI
\$3,194	\$55K-\$95K	\$58,194-\$98,194	58x - 98x

"I am hopeful to put off PT and injections indefinitely. Thanks for the opportunity to experience this unique approach to back arthritis."

Traditional MSK	Injections	Total Cost	Phy ROI
\$3,194	\$600/per	\$4,394	4.1x

"My back is constantly tight. I spent \$3k on Physical Therapy and been seeing a chiropractor for over 2 years. A few weeks of Phy and my back was relaxed."

Traditional MSK	Chiropractor	Total Cost	Phy ROI
\$3,194	\$1,560 - \$6,240	\$4,754-\$9,434	4.7x - 9.5x

"I was taking Meloxicam 2 times a week before Phy. Over the 11 weeks of Phy I took Meloxicam once. I finally got to the root of my problem."

Traditional MSK	Prescription	Total Cost	Phy ROI
\$3,194	\$100	\$3,294	3.3x

"Really appreciate MCHS providing this service. After spending a good \$4,000 on chiropractors over a few years, I'm glad to finally have corrective exercises that made noticeable changes to my walking stride and general physiology."

Traditional MSK	Chiropractor	Total Cost	Phy ROI
\$3,194	\$4,000	\$7,194	7.2x



Immediate Impactful ROI

Traditional MSK	Surgery	Chiropractor	Prescriptions	Total Cost	Phy ROI
\$15,970	\$55K-\$95K	\$5,560 - \$10,240	\$100	\$76,630-\$121,310	1.9x - 3x



$$\frac{\$76,630}{\$39,800} = 1.92$$

$$\frac{\$121,310}{\$39,800} = 3.04$$

Comparison

Traditional MSK Treatment vs. Phy

Traditional MSK Treatment


Path	Pain ⇒ Primary Care ⇒ Imaging ⇒ PT
Imaging	The injured area
Focus	Only the symptom (injured area)
Protocols	Homogenous treatment plan
Medication	Opioids / pain medications
Location	At a Physical Therapy office
Commitment	30–60 minutes 2X–3X a wk over 6–8 wks
Cost	\$3,194*

Phy Health

Path	Pain ⇒ phyCoach
Imaging	The entire body
Focus	Cause and symptom (entire body)
Protocols	Custom treatment plan
Medication	None
Location	In the comfort of your home
Commitment	~20 minutes, 5 days / wk over 8–12 weeks
Cost	\$995

(*MCHS Cost of Primary Care \$125 + Imaging \$1,016 + PT \$2,053)





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Testimonials



Testimonials and Closing Comments

"I was taking Meloxicam 2 times a week before Phy. Over the 11 weeks of Phy I took meloxicam once. I finally got to the root of my problem." (59 year old woman)

"In January, I was told I would need a laminectomy of L-2 thru L-5. I did six weeks of physical therapy with no relief. Phy program got me out of pain and I no longer need the surgery. My wife and I did the program together. Our coach customized our routines and changed them when needed. Because of Phy, I have more years of work left and am more active." (73 yr old man)

"I can squat again" (50 year old man)

"I can lay on the floor and get up without holding onto something!" (63 yr old man)

"My coach was wonderful and engaging. He took the time to get to know me as a person. We really connected. I'm going to miss Phy. Any way I can continue it? "

(54 yr old woman)

"I feel like a million bucks! I connected right away with my coach. He empowered me to get thru the program— when you know you're going to meet with someone to talk about whether you did the routines, it makes you accountable. I did years of Chiropractic visits. It worked for a while but I had to keep going back for the same pain. Now I am out of pain and I know what to do. I just hope there's a way I can continue improving with Phy."

(42 yr old woman)

"I just reached around and hooked my bra behind my back like a normal person. Can't remember the last time I was able to do that. Thank you, Phy!"

(48 yr old woman)

"I prefer solutions outside of medication so this alternative was very beneficial to me and helped my pain as well." (34 year old woman}

"The weekly contact keeps me on track and accountable. I would make PT appointments and skip them. My work would get in the way. Doing this from home —and even once I checked in while on vacation— made it easy." (46 yr old man)

Testimonials and Closing Comments

"I am very impressed with the outcomes I have noticed while working the program. I have dealt with lower back pain for roughly 20 years and it has mostly been eliminated. I can tell the difference when I slack on doing the exercises so I will try my best to keep it going indefinitely. Pete was awesome to work with and really listened to me and worked the program around my needs so that I would be successful and I really appreciated that." (42 year old woman)

"We loved the convenience of meeting with Pete each week @ our home during LUNCH TIME. It's got to be great for busy people—it was perfect for both of us!! Hats off to Pete—great motivator!!" (73 year old woman)

"Thank you for offering this for us! Pete was great. He was very positive and encouraging." (43 year old woman)

"I know I am not the most compliant patient, but I am sure my rate of compliance is much greater than most individuals needing MSK care. I'm curious to see how you will get those patients whom "just want surgery" to try PHY as an alternative. Also, I felt the "counseling sessions" were beneficial to my success and held me more accountable to complete my exercises." (44 year old man)

"I'm not good at committing to things. I did my best with my program and it helped me. I was skeptical it would help much but it did." (46 year old man)

"Really appreciate MCHS providing this service. After spending a good \$4,000 on chiropractors over a few years, I'm glad to finally have corrective exercises that made noticeable changes to my walking stride and general physiology." (37 year old woman)

"It's the customized recommendations and constant feedback that have made this successful for me. Thanks!" (62 year old man)

"I was skeptical but was proven wrong. I'm amazed at the findings and results. Even though I had some setbacks, I feel given a longer time in the program I could have life changing changes in my body." (46 year old man)

"I wish my dad could get this benefit through work. Pete, thanks for your wisdom and expertises. It has been helpful." (29 year old man)

"This was a fantastic program start to finish and I am very grateful to have been a part of it. My body feels better since starting the program! Peter was excellent in his consultations with me and was great to work with." (36 year old man)



Testimonials and Closing Comments

"Pete is amazing, love the attention, care, effort in connecting my always on the go husband & even my elderly parents to help them find what exercises they can do on their own to help them align their bodies to remove pain, increase mobility, avoid need for chiropractic adjustment, avoid chronic need for otc pain meds, and ultimately avoid back surgery.

I absolutely love this and can't wait to see the follow up scan results, maintenance plan after, options for reconnection with trainer after problem flare, it in the working app form.

Please let me know what are options for investment and testimony to promote this product!" (41 year old woman)

"Peter helped me move from the level I left off previously with PT for my lower back and hips, to the next level of actually correcting and strengthening my problem areas. I have gained muscular strength, reduced pain and fatigue, and am able to more easily do my daily activities as well as my workout activities such as hiking, kayaking and gym exercises." (62 year old woman)

"This was a fantastic program start to finish and I am very grateful to have been a part of it. My body feels better since starting the program! Peter was excellent in his consultations with me and was great to work with" (36 year old man)

"I have a bulging disk and love to hike. After hiking it would take me a few days to recover— I'd feel fatigued and stiffness in my back. While in the Phy pilot, I went on a 7 mile hike with colleagues. I waited for the pain the next day. There was none. I thought for sure I would feel it the next day. I was wrong. No pain and no fatigue. I know phy has made me stronger and I can do what I really enjoy." (62 year old woman)

"I play flag football and run. My back is constantly tight. I spent \$3k on Physical Therapy and been seeing a chiropractor for over 2 years. A few weeks of Phy and my back was relaxed. How can I continue with Phy?" (44 year old male)

"I started taking water painting classes after covid. I couldn't sit thru an entire class without upper back pain and feeling tired. Following my phy routine has made me stronger— I can make it thru hours of sitting for both painting and my job. It works if you follow the coaching." (29 year old woman)



Biographical Information

**Beth Siracuse, Director Employer Services
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Beth Siracuse brings over 25 years' experience in Employee Wellness, whose client list included Coop Award winner L.L. Bean, AEP, Honda of America and Kroger.

**Adam Goldberg, Head of Growth, Phy Health, New York, NY
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Adam Goldberg spent his 25-year career in sales, sales management, building teams, designing products, and starting companies. He is currently the Head of Growth at Phy Health, a healthcare company focused on treating musculoskeletal disorders. Before Phy, Adam worked most of his career in sales functions at Oracle, Google, and most recently, Twitter. He also founded two technology companies, one of which was acquired and is currently owned by eBay.