

**Mercy Health – Centers of Excellence  
Sports and Human Performance Program**

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# Mercy Health – Human Performance Program

- ❑ The Mercy Health Human Performance program is part of the Orthopedic Service Line and is designed to help athletes improve their performance
- ❑ Mercy is the only Orthopedic Sports Medicine group in the Greater Cincinnati area to offer this full line of services for the benefit of athletes of all ages and abilities
- ❑ The program offers a complete range of advanced technological performance assessments, counseling, education, training programs, and nutritional services
- ❑ If you are a healthy athlete looking to improve your performance, an injured athlete looking to make it back to your chosen sport, or a weekend warrior, Mercy has a program for you.

# Mercy Health – Human Performance Program

## BOD POD ASSESSMENT

### Who Can Benefit From This Assessment

- ❑ Individuals looking to reduce the health risks associated with high percent body fat
- ❑ Those looking to create a safe and effective nutrition and training programs to optimize athletic performance



### What Results Will I Get And Why Is This Important

- ❑ Percent body fat and lean body mass
- ❑ Having a healthy percent body fat provides many benefits
  - Balanced blood sugar
  - Healthy metabolism
  - Adequate vitamin storage
  - Balanced hormone levels
  - Good neurological function
  - Decreased pressure on joints

**21.6** %

% Fat

**193.468** lbs

Body Mass

**1851** kcal/day

REE (ADP) e

**41.821** lbs

FM

**83.610** L

Body Volume

**3851** kcal/day

TEE\_e

**151.647** lbs

FFM

**1.0496** kg/L

Body Density

**Very Active**

Activity Level

**78.4** %

% FFM

**4.544** L

TGV



**78.4**

% FFM

**21.6**

% Fat

### Body Fat

A certain amount of fat is necessary for good health. Fat plays an important role in protecting internal organs, providing energy, and regulating hormones. The minimal amount of "essential fat" is approximately 3-5% for men, and 12-15% for women. If too much fat accumulates over time, health may be compromised.

### Fat Free Mass

Fat free mass is everything except fat. It includes muscle, water, bone, and internal organs. Muscle is the "metabolic engine" of the body that burns calories and plays an important role in maintaining strength and energy. Healthy levels of fat-free mass contribute to physical fitness and may prevent conditions such as osteoporosis.

# Mercy Health – Human Performance Program

## Metabolic Performance Assessment

### Who Can Benefit From This Assessment

- ❑ **Fitness conscious people desiring to improve their training with the use of science**
- ❑ **Weekend warrior athletes, runners, and cyclists serious about training and wanting to maximize their time and effort**
- ❑ **High school athletes needing to improve their fitness and training**



### What Results Will I Get And Why Is This Important

- ❑ **VO2max**
  - Key indicator of cardiovascular health
  - Accurate measure of oxygen consumption during exercise
- ❑ **Anaerobic/Lactate Threshold**
  - Important for determining correct training zones to maximize workouts
- ❑ **Metabolic Efficiency**
  - Individualized accurate heart rate zone for aerobic work to be a more efficient fat burner
  - This will allow you work at a higher level and longer
- ❑ **Cross Over Point**
  - Heart rate when you hit this point – burning carbohydrates for fuel in place of fat

# Mercy Health – Centers of Excellence Sports and Human Performance Program

## ❖ COSMED Cardiopulmonary Exercise Testing Results

t s	RQ	HR	Power	Revolution	Phase	% Fat	CHO%
	---	bpm	Watt	RPM	---	%	%
00:32	0.84	52	0	0	REST	53.4	46.6
00:42	0.82	52	0	0	REST	62.3	37.7
00:51	0.82	52	0	0	REST	61.2	38.8
01:04	0.84	52	0	0	REST	54	46
01:14	0.83	52	0	0	REST	56.4	43.6
01:25	0.82	55	0	0	REST	60.7	39.3
01:36	0.76	58	0	76	WARMUP	82.5	17.5
01:45	0.75	61	0	75	WARMUP	84.6	15.4
01:56	0.74	61	0	77	WARMUP	87.4	12.6
02:08	0.79	61	0	75	WARMUP	72.9	27.1
02:19	0.81	59	0	75	WARMUP	65.7	34.3
02:30	0.84	58	0	75	WARMUP	55	45
02:40	0.86	57	20	70	EXERCISE	48.4	51.6
02:51	0.85	56	25	68	EXERCISE	52.3	47.7
03:04	0.81	55	30	70	EXERCISE	64.2	35.8
03:15	0.78	55	35	68	EXERCISE	74.4	25.6
03:26	0.8	56	40	71	EXERCISE	67	33
03:36	0.82	58	40	69	EXERCISE	60	40

t s	RQ	HR	Power	Revolution	Phase	% Fat	CHO%
	---	bpm	Watt	RPM	---	%	%
03:47	0.83	60	45	65	EXERCISE	57.4	42.6
03:57	0.84	62	50	65	EXERCISE	53	47
04:06	0.83	63	55	65	EXERCISE	59.5	40.5
04:17	0.81	64	60	63	EXERCISE	63.3	36.7
04:27	0.83	66	65	69	EXERCISE	57.6	42.4
04:40	0.83	68	70	69	EXERCISE	59.7	40.3
04:51	0.85	70	75	70	EXERCISE	51.2	48.8
05:01	0.85	72	80	72	EXERCISE	52.5	47.5
05:12	0.83	74	80	69	EXERCISE	58.1	41.9
05:22	0.83	75	85	69	EXERCISE	59.7	40.3
05:31	0.82	76	90	65	EXERCISE	61.5	38.5
05:43	0.84	76	95	66	EXERCISE	55.1	44.9
05:52	0.86	77	100	67	EXERCISE	48.9	51.1
06:05	0.86	79	105	63	EXERCISE	47.1	52.9
06:15	0.87	79	110	68	EXERCISE	43.9	56.1
06:26	0.88	79	115	70	EXERCISE	41.8	58.2
06:38	0.88	81	120	63	EXERCISE	42.4	57.6
06:49	0.88	82	125	66	EXERCISE	40.5	59.5

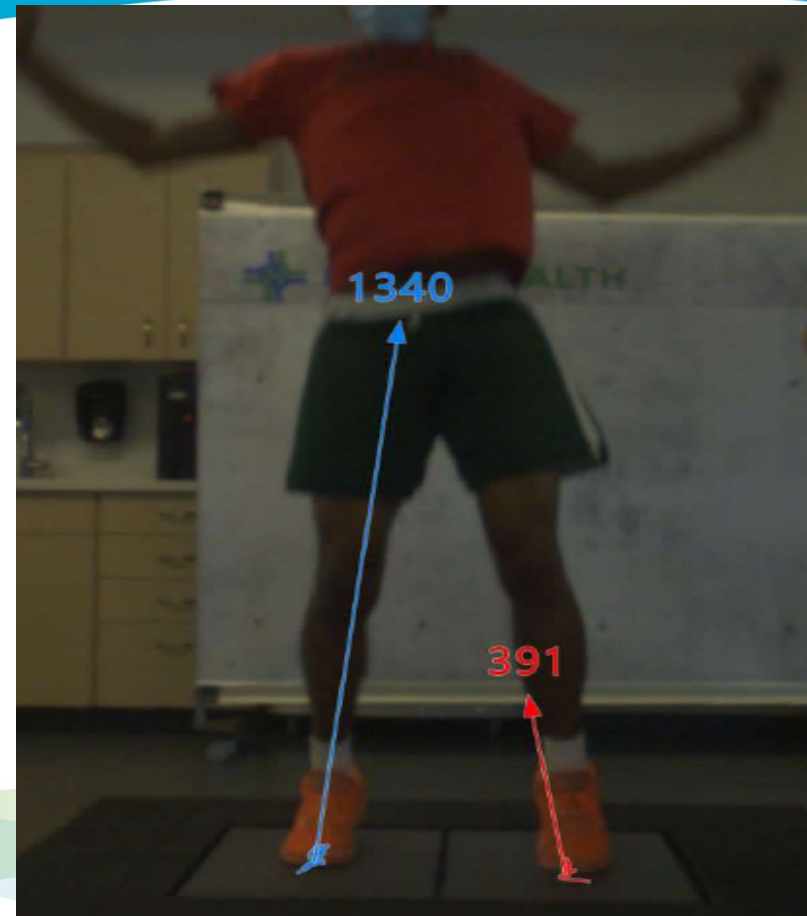
t s	RQ	HR	Power	Revolution	Phase	% Fat	CHO%
	---	bpm	Watt	RPM	---	%	%
10:10	0.99	116	205	67	EXERCISE	2	98
10:21	0.99	118	210	65	EXERCISE	2.3	97.7
10:30	0.99	119	215	64	EXERCISE	3.7	96.3
10:40	1	121	220	67	EXERCISE	1.1	98.9
10:51	1	122	225	69	EXERCISE	0	100
11:03	1.03	125	230	73	EXERCISE	0	100
11:12	1.04	128	230	64	EXERCISE	0	100
11:24	1.04	130	235	56	EXERCISE	0	100
11:34	1.03	130	240	70	EXERCISE	0	100
11:44	1.04	131	245	60	EXERCISE	0	100
11:54	1.05	131	250	74	EXERCISE	0	100
12:04	1.06	133	255	66	EXERCISE	0	100
12:16	1.07	135	260	61	EXERCISE	0	100
12:25	1.07	137	260	60	EXERCISE	0	100
12:34	1.09	140	265	62	EXERCISE	0	100
12:47	1.08	142	270	39	EXERCISE	0	100
12:58	1.11	142	275	4	EXERCISE	0	100

# Mercy Health – Human Performance Program

## 2D Biomechanical Analysis with Dual Force Plates

- ❑ Athletic performance can be significantly enhanced by knowing the strengths and deficits of an athlete
- ❑ Video force plate results allow for tailoring a program to enhance the strengths and correct the deficits
- ❑ This information allows for optimal athletic performance, injury prevention and gives valuable insight into an injured athlete's return to play status

**Landing Phase**



# Mercy Health – Human Performance Program Two Convenient Locations



**Mercy Health - Center of Excellence**  
**1508 John Street, Suite A**  
**Cincinnati, OH 45214**  
**513-985-1267**





# Mercy Health – Human Performance Program Two Convenient Locations



**Mercy Health - Sports Medicine Institute**  
**4700 Galbraith Road, Suite 300B**  
**Cincinnati, OH 45236**  
**513-985-1267**

