

## APPENDIX

### **Case Studies in Physiology: Wearable Insights into Weight Loss and Cardiometabolic Health over a Three-Year Transition from Couch to Ironman 70.3 Triathlon**

**Running head:** From Couch to Ironman with a Wearable

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Topic	Item	Checklist item description	Reported on Line
Title	1	The diagnosis or intervention of primary focus followed by the words "case report" .....	Page 1
Key Words	2	2 to 5 key words that identify diagnoses or interventions in this case report, including "case report" .....	Page 3
Abstract (no references)	3a	Introduction: What is unique about this case and what does it add to the scientific literature? .....	Page 2
	3b	Main symptoms and/or important clinical findings .....	Page 2
	3c	The main diagnoses, therapeutic interventions, and outcomes .....	Page 2
	3d	Conclusion—What is the main "take-away" lesson(s) from this case? .....	Pages 2-3
Introduction	4	One or two paragraphs summarizing why this case is unique ( <b>may include references</b> ) .....	Page 5
Patient Information	5a	De-identified patient specific information .....	Page 6
	5b	Primary concerns and symptoms of the patient .....	Page 6
	5c	Medical, family, and psycho-social history including relevant genetic information .....	Page 6
	5d	Relevant past interventions with outcomes .....	Page 6
Clinical Findings	6	Describe significant physical examination (PE) and important clinical findings .....	Page 6
Timeline	7	Historical and current information from this episode of care organized as a timeline .....	Pages 6-9
Diagnostic Assessment	8a	Diagnostic testing (such as PE, laboratory testing, imaging, surveys) .....	Pages 6-9
	8b	Diagnostic challenges (such as access to testing, financial, or cultural) .....	Page 6
	8c	Diagnosis (including other diagnoses considered) .....	Pages 5 & 10-13
	8d	Prognosis (such as staging in oncology) where applicable .....	Pages 10-13
Therapeutic Intervention	9a	Types of therapeutic intervention (such as pharmacologic, surgical, preventive, self-care) .....	Pages 6-9
	9b	Administration of therapeutic intervention (such as dosage, strength, duration) .....	Pages 6-9
	9c	Changes in therapeutic intervention (with rationale) .....	NA
Follow-up and Outcomes	10a	Clinician and patient-assessed outcomes (if available) .....	Pages 10-13
	10b	Important follow-up diagnostic and other test results .....	Pages 10-13
	10c	Intervention adherence and tolerability (How was this assessed?) .....	Page 10
	10d	Adverse and unanticipated events .....	NA
Discussion	11a	A scientific discussion of the strengths AND limitations associated with this case report .....	Pages 13-17
	11b	Discussion of the relevant medical literature <b>with references</b> .....	Pages 13-17
	11c	The scientific rationale for any conclusions (including assessment of possible causes) .....	Pages 13-17
	11d	The primary "take-away" lessons of this case report (without references) in a one paragraph conclusion .....	Page 17
Patient Perspective	12	The patient should share their perspective in one to two paragraphs on the treatment(s) they received .....	NA
Informed Consent	13	Did the patient give informed consent? Please provide if requested .....	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

**Table S1. Monthly summary of measures and aggregates**

Date	Weight measures (#)	Body mass (kg)	Day measures (#)	RHR (bpm)	HRV (ms)	HRV-CV (%)	Physical activity (hrs)	Sleep duration (hrs)	Restorative sleep (%)	Sleep efficiency (%)	Sleep consistency (%)
<b>2022</b>											
May	20	122.3 ± 1.0	20	69.5 ± 3.9	40.6 ± 9.7	18.9 ± 6.6	12.0	7.6 ± 1.1	38.9 ± 8.9	93.2 ± 2.2	61.2 ± 15.5
June	12	120.4 ± 0.6	21	66.3 ± 4.0	51.5 ± 12.8	23.5 ± 9.9	7.4	7.4 ± 1.0	49.0 ± 10.0	93.0 ± 2.7	69.4 ± 11.3
July	22	118.4 ± 0.7	30	64.8 ± 3.2	56.3 ± 11.4	16.3 ± 4.6	10.9	7.3 ± 0.9	44.7 ± 6.1	93.3 ± 1.9	74.6 ± 10.2
August	28	115.6 ± 1.4	31	65.1 ± 3.7	53.9 ± 11.0	20.6 ± 5.4	24.3	7.2 ± 0.8	46.0 ± 7.6	92.9 ± 3.5	73.5 ± 9.9
September	30	111.8 ± 1.1	30	64.8 ± 3.0	52.6 ± 10.5	18.1 ± 3.2	18.7	7.0 ± 1.0	47.7 ± 8.0	93.7 ± 2.3	71.5 ± 10.3
October	30	108.8 ± 1.2	31	62.1 ± 3.4	60.9 ± 13.9	20.7 ± 5.1	12.1	7.2 ± 1.1	44.0 ± 6.7	92.9 ± 3.3	68.7 ± 10.3
November	30	106.8 ± 0.9	30	61.0 ± 3.3	62.5 ± 12.1	19.0 ± 4.6	11.5	7.1 ± 0.9	45.5 ± 7.2	93.0 ± 3.1	74.5 ± 10.2
December	28	105.1 ± 0.6	31	59.5 ± 3.0	68.9 ± 12.0	16.5 ± 2.9	9.8	7.5 ± 0.9	45.4 ± 8.1	92.6 ± 4.9	65.6 ± 11.8
<b>2023</b>											
Jan	26	104.3 ± 0.7	31	57.6 ± 3.1	69.9 ± 13.2	17.9 ± 3.8	18.6	7.2 ± 1.5	41.3 ± 8.2	92.2 ± 4.0	66.7 ± 8.4
Feb	28	103.3 ± 3.9	28	59.1 ± 3.5	62.2 ± 11.8	18.9 ± 8.0	13.2	7.5 ± 1.1	43.9 ± 4.8	91.6 ± 3.6	70.1 ± 8.0
March	30	101.5 ± 0.8	31	61.1 ± 3.2	56.2 ± 10.5	18.5 ± 3.7	13.0	7.7 ± 1.1	40.4 ± 6.4	88.9 ± 5.5	64.5 ± 16.5
April	30	99.8 ± 0.6	30	61.1 ± 3.1	59.0 ± 12.2	19.8 ± 4.7	19.6	7.0 ± 1.2	46.1 ± 8.2	91.0 ± 6.6	63.0 ± 11.9
May	30	99.3 ± 0.6	31	59.4 ± 3.5	60.8 ± 11.3	16.3 ± 7.1	6.8	7.2 ± 1.2	43.7 ± 6.4	90.5 ± 5.4	61.7 ± 13.0
June	23	99.8 ± 0.6	30	59.4 ± 3.8	61.4 ± 14.7	20.4 ± 6.0	8.6	6.5 ± 1.3	44.4 ± 7.1	91.9 ± 5.0	60.2 ± 17.3
July	13	99.5 ± 0.3	29	56.9 ± 3.5	69.1 ± 12.3	16.7 ± 3.6	20.2	7.0 ± 1.4	42.3 ± 8.5	92.1 ± 5.4	59.8 ± 15.7
August	25	97.1 ± 0.5	30	56.9 ± 3.1	75.5 ± 13.6	18.3 ± 5.0	22.9	7.0 ± 1.1	44.6 ± 8.2	94.2 ± 3.4	61.8 ± 15.6
September	21	96.2 ± 0.5	28	56.6 ± 3.2	70.0 ± 13.9	15.9 ± 4.9	12.5	6.9 ± 0.9	45.6 ± 8.9	94.2 ± 2.7	75.9 ± 7.4
October	24	95.8 ± 0.5	30	58.8 ± 3.1	63.8 ± 11.9	19.7 ± 5.5	7.8	7.0 ± 1.4	42.2 ± 8.9	91.5 ± 5.0	69.1 ± 12.4
November	18	95.1 ± 0.7	30	56.2 ± 2.4	74.7 ± 9.7	12.8 ± 1.6	16.2	7.4 ± 1.1	41.3 ± 8.2	93.2 ± 2.7	68.8 ± 8.9
December	7	94.7 ± 0.7	30	54.2 ± 3.5	78.4 ± 13.4	16.8 ± 6.0	17.8	7.0 ± 0.8	43.7 ± 6.5	92.9 ± 3.8	66.4 ± 15.5
<b>2024</b>											
Jan	22	94.9 ± 0.5	31	54.7 ± 3.1	75.3 ± 12.5	16.5 ± 3.7	20.2	7.6 ± 1.1	42.3 ± 7.5	91.4 ± 4.6	69.1 ± 10.2
Feb	12	94.3 ± 0.7	28	54.1 ± 2.3	76.8 ± 10.4	12.6 ± 5.0	20.4	7.2 ± 1.1	43.4 ± 8.2	92.7 ± 4.5	66.3 ± 12.0
March	17	93.2 ± 0.5	31	55.3 ± 2.7	73.9 ± 9.8	13.8 ± 2.6	26.8	7.4 ± 1.1	39.1 ± 7.4	92.5 ± 2.9	67.6 ± 13.7
April	12	92.8 ± 0.6	30	55.4 ± 3.5	75.3 ± 15.8	20.4 ± 4.3	32.7	6.9 ± 1.2	41.9 ± 6.8	92.7 ± 4.1	64.0 ± 15.9
May	11	91.4 ± 0.5	30	54.7 ± 3.8	74.8 ± 15.8	19.5 ± 8.7	18.3	7.5 ± 1.5	44.2 ± 8.4	92.0 ± 4.7	65.2 ± 13.4
June	6	89.8 ± 0.6	29	56.4 ± 2.9	71.8 ± 15.2	19.6 ± 6.0	34.7	6.8 ± 1.1	46.1 ± 6.8	93.0 ± 3.9	72.7 ± 11.7
July	6	87.9 ± 1.0	31	50.6 ± 2.2	88.3 ± 11.3	12.2 ± 2.8	17.6	7.6 ± 1.1	43.7 ± 9.1	93.7 ± 2.2	73.7 ± 10.7
August	0	N/A	30	53.5 ± 2.9	73.0 ± 10.2	13.5 ± 4.1	15.7	7.7 ± 0.8	43.7 ± 6.5	91.6 ± 3.8	77.2 ± 7.6
September	6	89.7 ± 0.7	30	54.4 ± 3.8	67.5 ± 11.9	17.2 ± 5.9	16.6	7.6 ± 1.1	41.3 ± 5.8	90.1 ± 6.1	63.6 ± 16.7
October	5	89.3 ± 0.7	31	53.1 ± 3.0	71.2 ± 12.1	15.8 ± 5.4	11.9	7.5 ± 1.4	43.9 ± 7.5	92.9 ± 3.8	64.7 ± 10.9
November	3	89.5 ± 0.1	30	56.7 ± 3.1	56.2 ± 10.5	17.6 ± 3.9	14.9	7.2 ± 1.1	44.8 ± 8.7	91.8 ± 5.3	65.6 ± 13.3
December	3	89.0 ± 0.4	31	56.9 ± 3.0	66.3 ± 12.3	17.3 ± 3.4	26.1	7.2 ± 1.0	45.6 ± 10.7	93.3 ± 3.3	71.6 ± 9.4
<b>2025</b>											
Jan	19	90.6 ± 0.7	31	54.2 ± 3.0	73.0 ± 11.2	15.7 ± 3.6	26.0	7.2 ± 1.1	43.5 ± 8.7	93.0 ± 4.4	66.7 ± 11.1
Feb	20	89.2 ± 0.5	27	54.2 ± 3.9	69.2 ± 12.9	17.3 ± 7.9	23.1	7.3 ± 1.3	44.8 ± 7.5	92.4 ± 5.2	59.0 ± 14.1
March	17	88.8 ± 0.6	30	54.9 ± 3.0	68.8 ± 12.4	16.9 ± 4.7	19.4	7.7 ± 1.6	43.8 ± 8.1	93.4 ± 5.8	61.9 ± 15.3
April	22	87.9 ± 0.5	30	55.4 ± 3.4	65.3 ± 13.3	18.6 ± 5.0	34.4	7.5 ± 1.5	42.5 ± 5.0	94.6 ± 4.0	62.4 ± 8.9
May	20	88.3 ± 0.6	31	53.6 ± 3.3	75.5 ± 14.0	17.5 ± 3.5	38.6	7.1 ± 1.4	44.3 ± 7.1	93.8 ± 7.3	67.7 ± 11.9
June	12	87.8 ± 0.9	30	53.8 ± 2.2	69.2 ± 9.7	14.7 ± 3.2	22.3	7.1 ± 1.3	46.9 ± 7.0	96.6 ± 1.9	68.3 ± 13.6

**Table S2. Annual summary of measures and aggregates**

Year	Body mass (kg)	RHR (bpm)	HRV (ms)	HRV-CV (%)	Physical activity (hrs)	Sleep duration (hrs)	Restorative sleep (%)	Sleep efficiency (%)	Sleep consistency (%)
2022	113.7 ± 6.5	64.1 ± 3.2	55.9 ± 8.5	19.2 ± 2.4	13.3 ± 5.5	7.3 ± 0.2	45.1 ± 3.0	93.1 ± 0.3	69.9 ± 4.7
2023	98.9 ± 3.2	58.1 ± 2.1	66.8 ± 7.2	17.7 ± 2.1	14.8 ± 5.3	7.1 ± 0.3	43.3 ± 1.8	92.0 ± 1.5	65.7 ± 4.8
2024	91.1 ± 2.4	54.6 ± 1.8	72.5 ± 7.5	16.3 ± 2.8	21.3 ± 7.2	7.3 ± 0.3	43.3 ± 1.9	92.3 ± 1.0	68.4 ± 4.4
2025	88.8 ± 1.0	54.4 ± 0.7	70.2 ± 3.6	16.8 ± 1.4	27.3 ± 7.5	7.3 ± 0.2	44.3 ± 1.5	94.0 ± 1.5	64.3 ± 3.8

**Table S3.** Blood measures.

	<b>October 2023</b>	<b>September 2025</b>	<b>Percent Change</b>
<b>Hemoglobin (g/dL)</b>	16.6	15.8	-4.8%
<b>Hematocrit (%)</b>	47.9	48.5	+1.3%
<b>TSH (mIU/L)</b>	1.30	0.6	-53.8%
<b>Triglycerides (mg/dL)</b>	134	74	-44.8%
<b>HDL (mg/dL)</b>	33	42	+27.3%
<b>LDL (mg/dL)</b>	89	72	-19.1%
<b>HbA1c (%)</b>	4.7	5.1	+8.5%
<b>Glucose (mg/dL)</b>	102	82	-19.6%
<b>Estimated GFR</b>	>90	>90	-
<b>Testosterone (ng/dL)</b>	418	418	0.0%