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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CARE Checklist of information to include when writing a case report

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 (**may include references**)	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 **with references**	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 ☒ No ☐

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 (%)
2022											
May	20	122.3 ± 1.0	20	69.5 ± 3.9	40.6 ± 9.7	18.9 ± 6.6	14.3	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	8.9	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	16.4	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	27.3	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	25.1	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	15.6	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	14.8	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	14.7	7.5 ± 0.9	45.4 ± 8.1	92.6 ± 4.9	65.6 ± 11.8
2023											
Jan	26	104.3 ± 0.7	31	57.6 ± 3.1	69.9 ± 13.2	17.9 ± 3.8	29.9	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	28.9	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	19.6	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	26.8	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	10.2	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	12.8	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	30.2	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	27.1	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	22.3	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	10.9	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	24.0	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	23.1	7.0 ± 0.8	43.7 ± 6.5	92.9 ± 3.8	66.4 ± 15.5
2024											
Jan	22	94.9 ± 0.5	31	54.7 ± 3.1	75.3 ± 12.5	16.5 ± 3.7	26.4	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	23.4	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	35.0	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	37.9	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	22.8	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	47.7	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	20.3	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	22.7	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	21.4	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	18.1	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	15.4	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	27.6	7.2 ± 1.0	45.6 ± 10.7	93.3 ± 3.3	71.6 ± 9.4
2025											
Jan	19	90.6 ± 0.7	31	54.2 ± 3.0	73.0 ± 11.2	15.7 ± 3.6	27.1	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	24.2	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	23.5	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	38.2	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	41.5	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	28.2	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	17.1 ± 6.0	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	22.1 ± 7.3	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	26.6 ± 9.3	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	30.5 ± 7.6	7.3 ± 0.2	44.3 ± 1.5	94.0 ± 1.5	64.3 ± 3.8

Table S3. Blood measures.			
	October 2023	September 2025	Percent Change
Hemoglobin (g/dL)	16.6	15.8	-4.8%
Hematocrit (%)	47.9	48.5	+1.3%
TSH (mIU/L)	1.30	0.6	-53.8%
Triglycerides (mg/dL)	134	74	-44.8%
HDL (mg/dL)	33	42	+27.3%
LDL (mg/dL)	89	72	-19.1%
HbA1c (%)	4.7	5.1	+8.5%
Glucose (mg/dL)	102	82	-19.6%
Estimated GFR	>90	>90	-
Testosterone (ng/dL)	418	418	0.0%