
FIRSTBEAT
LIFESTYLE ASSESSMENT:
IMPROVE YOUR WELL-BEING
Tiina Hoffman

CONTENTS OF TRAINING (PARTS 1 +2)

PRE-TRAINING TASK: Make a measurement on yourself

The 1st step in the training process is to complete your own 3-day measurement, analyze the data, create reports and bring them to training session 1.

TRAINING PART I

Contents:

- Introductions and goals of training
- Interpretation of reports (group feedback model)
- *Practice*: Conclusions of your own assessment
- Physiological basis of the method
- *Practice*: Interpretation of different results
- Conducting the Lifestyle Assessment
- Instructions for the independent practice period

PRACTICE PERIOD (2—4 weeks)

During this period you should complete two Lifestyle Assessments to someone else (e.g. colleague or family member) and give them feedback about the results.

TRAINING PART II

Contents:

1. Discussion of the practice task (conducted assessments)
2. Estimating the reliability of results
3. Group assessments

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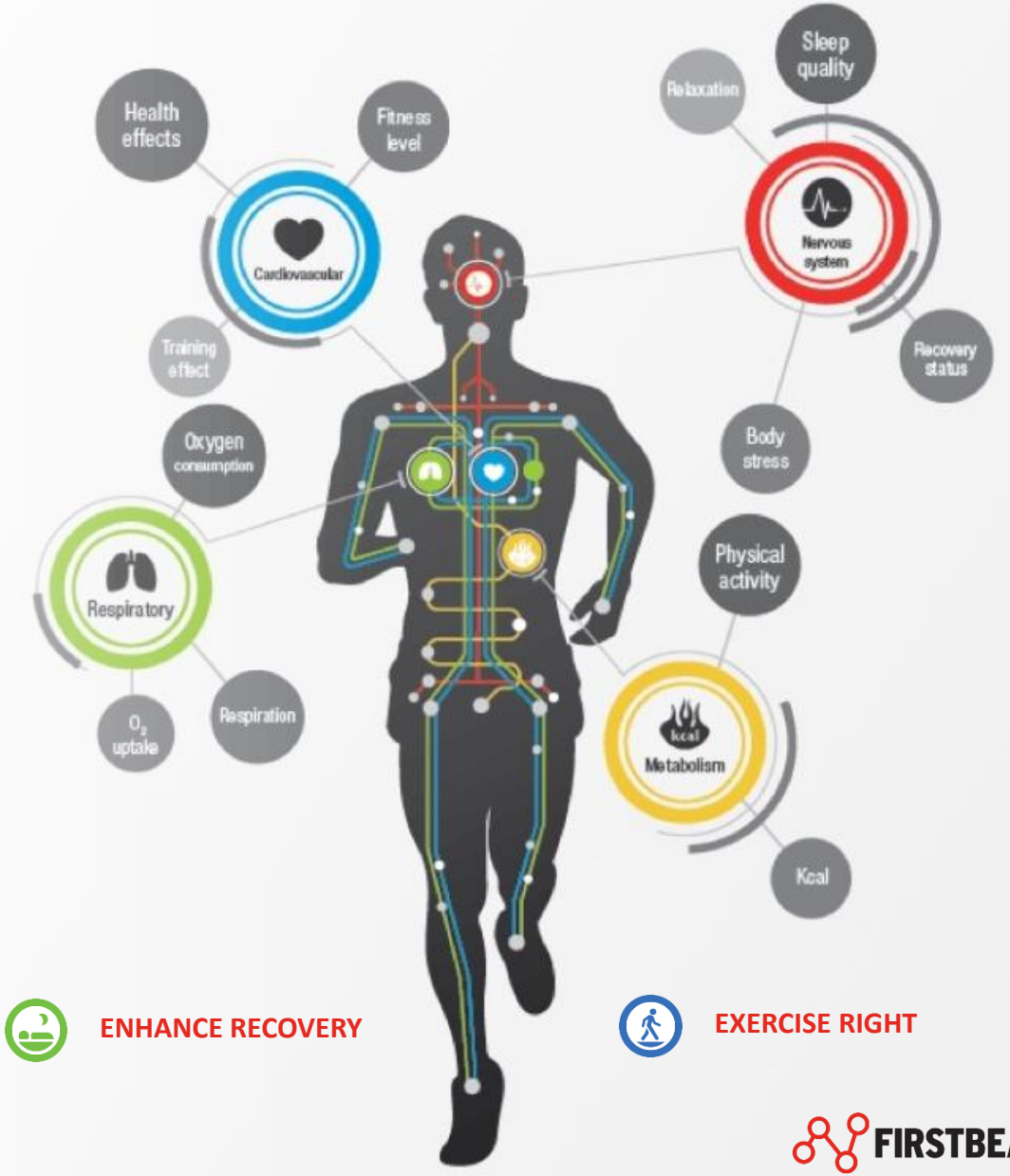
GOALS OF FIRSTBEAT USER TRAINING

- Firstbeat Lifestyle Assessment User Training gives you the necessary skills and knowledge to interpret Firstbeat Lifestyle Assessment reports and act as a Lifestyle Assessment Specialist.
- After the training, you will be able to:
  - Conduct a Firstbeat Lifestyle Assessment to your client
  - Interpret assessment reports and understand different types of results
  - Provide quality feedback to your client and discuss appropriate goals and action steps

FIRSTBEAT

- Established in 2002 as a spin-off from Research Institute for Olympic Sports and University of Jyväskylä, Finland
- Based on 20 years of research and experience in heartbeat and heart rate variability
- Firstbeat has created a unique digital model of the physiology that turns heartbeat data into personal feedback
- We bring near laboratory accuracy and technology used by professional athletes to everyone



MANAGE STRESS ENHANCE RECOVERY EXERCISE RIGHT

FIRSTBEAT

LEADING HEARTBEAT ANALYTICS FOR

Professional Sports

Over 700 elite teams worldwide use Firstbeat Solutions

Consumer Products

Firstbeat is the leading licensor of heartbeat analytics technology – our innovations are integrated into over 70 consumer devices.

GARMIN
SONY
SAMSUNG
Microsoft
SUUNTO
Jabra
BOSCH
pear
HUAWEI

Wellness Services

The Firstbeat Lifestyle Assessment is used by hundreds of healthcare providers around the world to support employees such as

NHS
BMW
SUPERCELL
SAP
accenture
KPMG
CISCO
Standard Chartered
Canon
EY
Unilever
Heineken

FIRSTBEAT

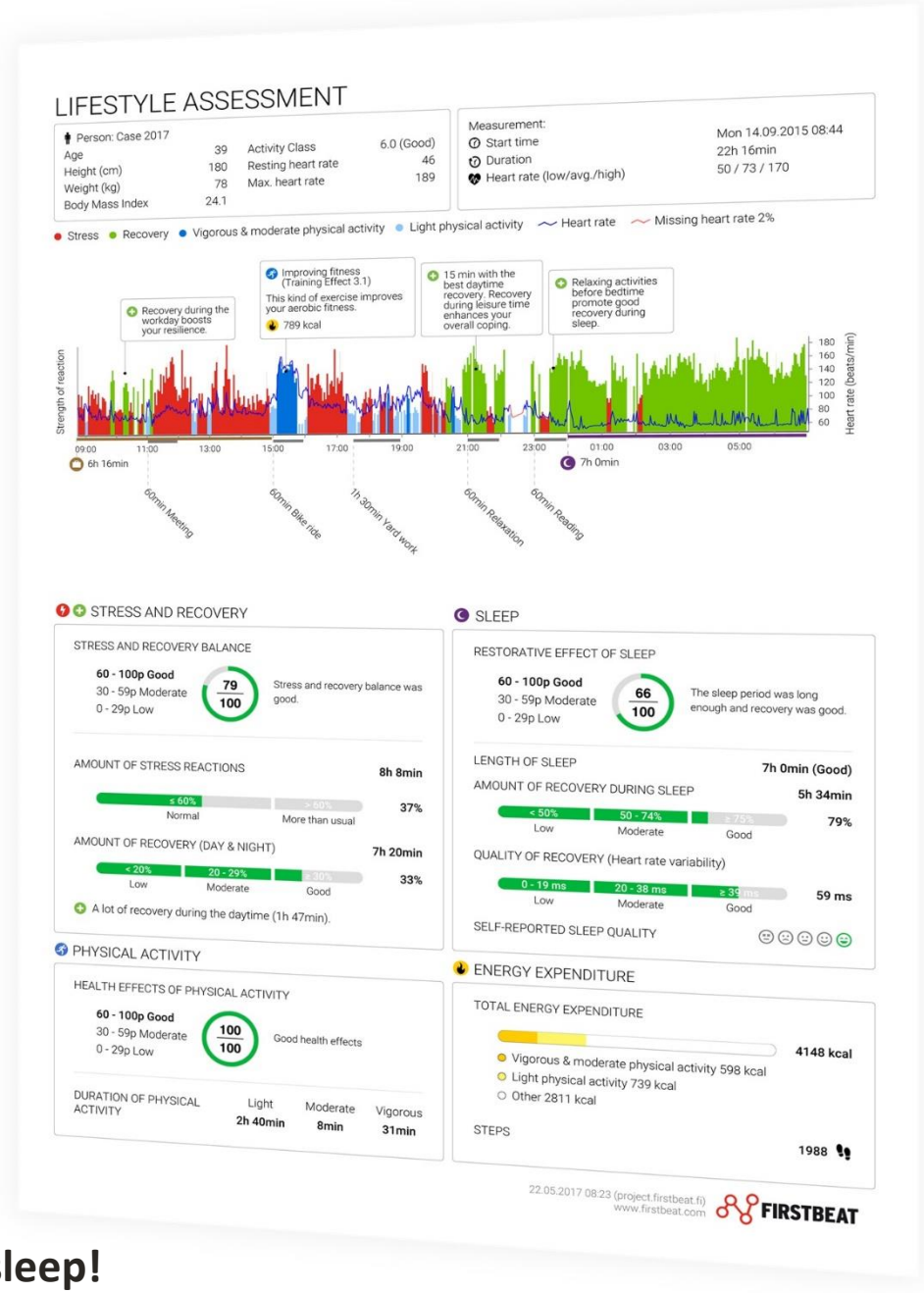
FIRSTBEAT
LIFESTYLE ASSESSMENT

Helps you understand the state of your well-being and what to do to improve it.

Manage stress
Recognize activities that cause stress

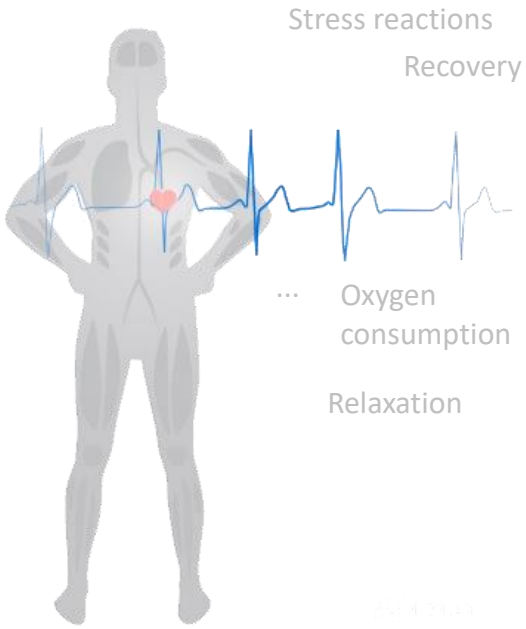
Enhance recovery
See how you recover during sleep

Exercise right
See the effect of your exercise



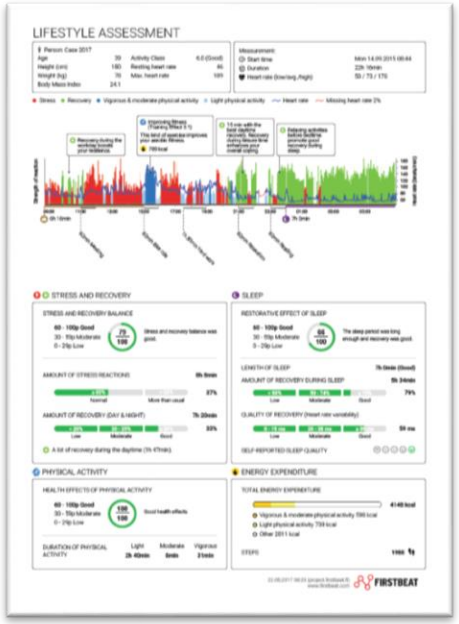
A comprehensive look at well-being during work, leisure and sleep!

LIFESTYLE ASSESSMENT BACKGROUND



Heart rate variability (HRV) contains information about key physiological functions

Firstbeat measures heart rate variability to analyze these functions



Firstbeat produces a comprehensive report about personal well-being

FIRSTBEAT


FIRSTBEAT
INTERPRETATION OF REPORTS:
LIFESTYLE ASSESSMENT GROUP
FEEDBACK

PRE-QUESTIONAIRE

PRE-QUESTIONNAIRE REPORT

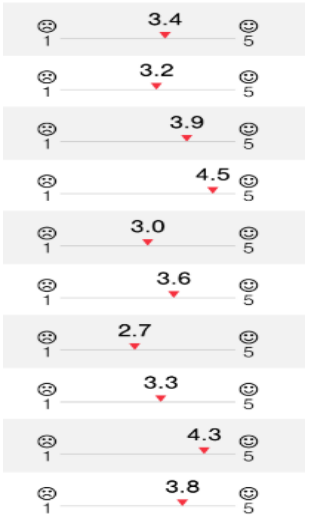
Profile	Measurement start date
Ellie Example	01.01.2012

Questionnaire results

I think I am physically active enough to get health benefits.	Partially agree
I think my physical activity is intensive enough to improve my fitness.	Partially disagree
In my opinion, my eating habits are healthy.	Completely agree
I feel that my alcohol consumption is not excessive.	Partially agree
I don't generally feel stressed.	Partially disagree
My days include breaks that allow me to recover.	Partially agree
I usually feel rested and energetic.	Partially disagree
I feel that I sleep enough.	Partially agree
I feel that I can influence the things that affect my health.	Completely agree
In my opinion, I feel well at the moment.	Partially agree

Scale of answers:
Completely agree
Partially agree
Cannot say
Partially disagree
Completely disagree

Average answers
(Firstbeat database 2016)



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PERSONAL AND MEASUREMENT INFORMATION

Person: Ellie Example			
Age	43	Activity Class	4.0 (Average)
Height (cm)	164	Resting heart rate	46
Weight (kg)	60	Max. heart rate	175
Body Mass Index	22.3		

Measurement:	
Start time	Fri 24.02.2012 07:14
Duration	26h 45min
Heart rate (low/avg./high)	53 / 69 / 134

Additional information: Alcohol 4 units

- **Resting heart rate =** the lowest measured heart rate (HR) value. The analysis might also recommend a lower value (based on pre-questionnaire, alcohol consumption, poor subjective sleep). Typical range is 40-60. A low resting HR often correlates with a good fitness level.
- **Max. heart rate** = unless known, the analysis estimates the max.HR based on age. Formula: 210 – (0,65*age).
- Daily information shows the lowest and highest measured HR + average HR during the measurement day.
- Average HR normally 60-85 beats/min.
- Daily journal markings re. number of units of alcohol.

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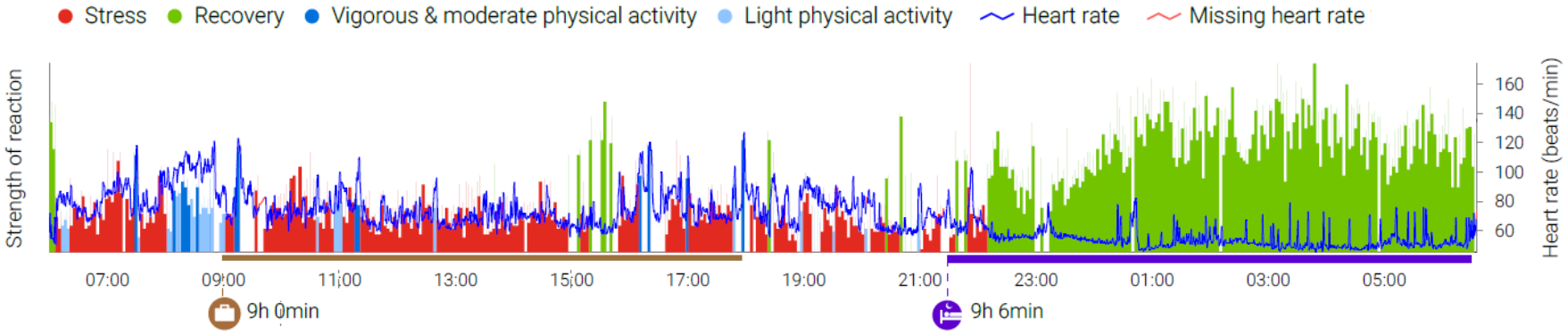
WHAT DO THE DIFFERENT COLORS MEAN?



Stress reaction	Recovery	Physical activity	Other state
Increased activation level in the body. The reaction can be positive or negative. Sympathetic dominance. • Heart rate ↑ • Respiration frequency ↑ • Heart rate variability ↓ • Oxygen uptake <20% of maximal capacity (VO2max)	Calming down of the body. Parasympathetic dominance. • Heart rate ↓ • Respiration frequency ↓ • Heart rate variability ↑ • Oxygen uptake <20% of maximal capacity (VO2max)	Physical load during which energy expenditure is significantly increased from the resting level (over 2 MET). • Vigorous physical activity: an intensity of over 60% • Moderate physical activity: an intensity between 40-60% • Light physical activity: an intensity between 20-40% of maximal performance	Other state (white) is typically: • Recovery from exercise • Low-level physical activity • Short awakenings during sleep • Missing data periods (for example during a shower)

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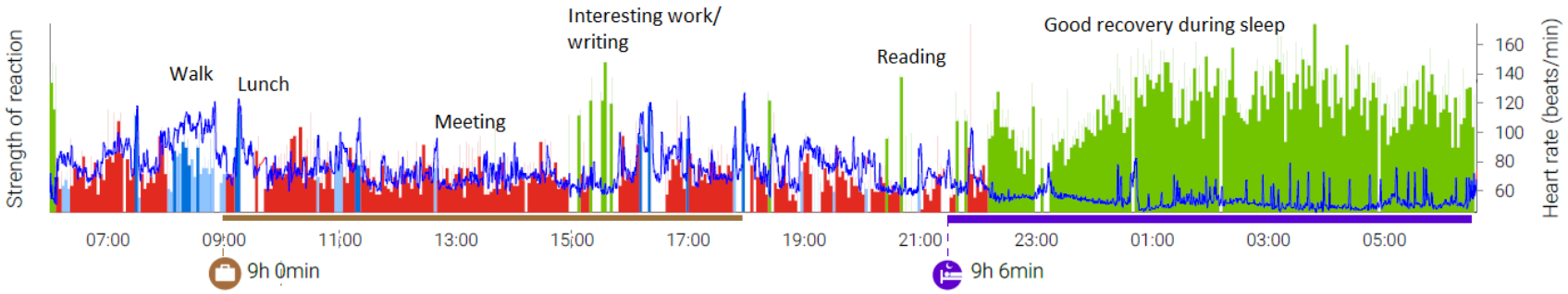
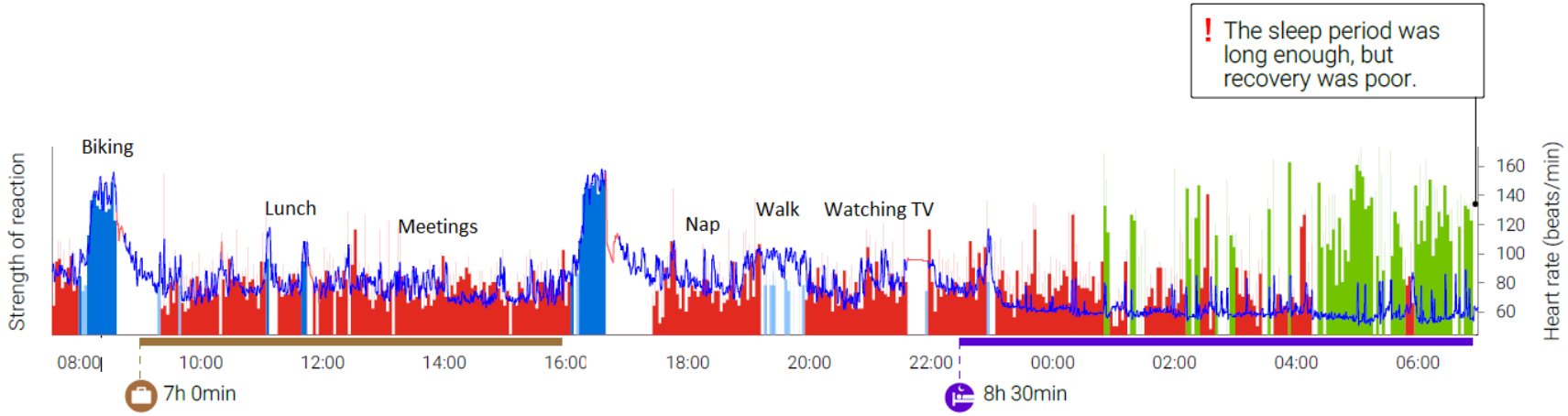
POSITIVE OR NEGATIVE STRESS?

Positive stress activates the body and improves efficiency, and in general does not disturb recovery or sleep.



Negative stress keeps the body constantly activated (wired) and prevents recovery while resting or sleeping.



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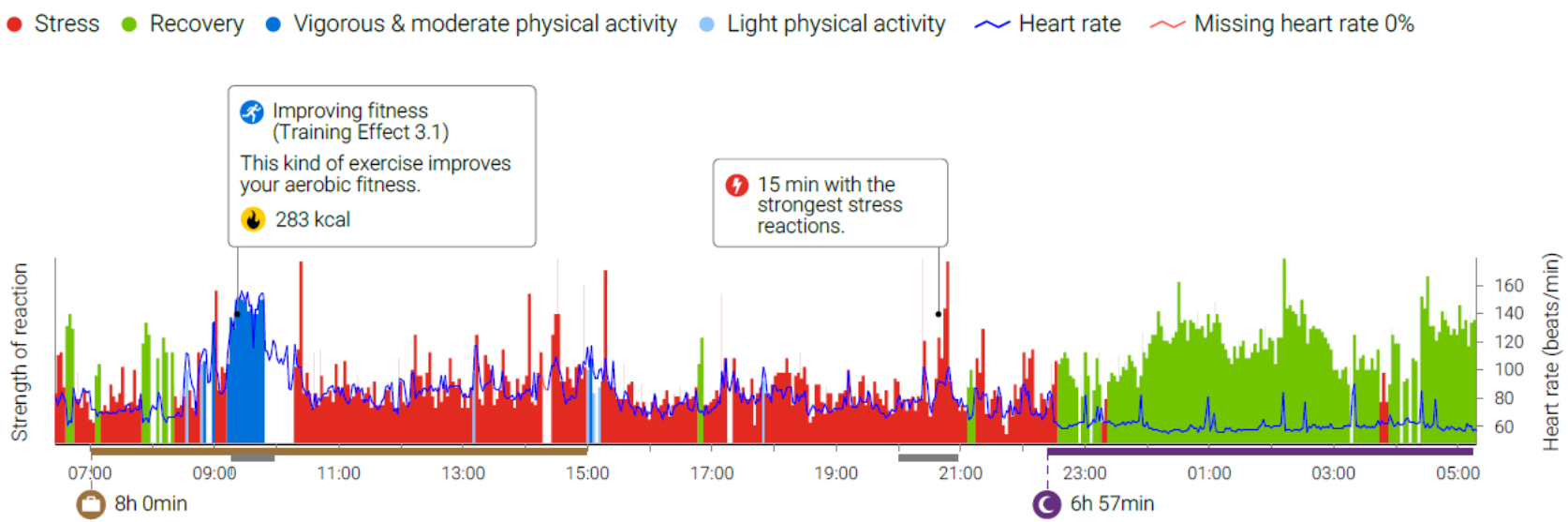
WHAT DOES YOUR DAY LOOK LIKE?

Do you recover during the day? (e.g. break / relaxation moment)

What are the health and fitness effects of your exercise?

Is your sleep restorative?



HEALTH EFFECTS OF PHYSICAL ACTIVITY

60 - 100p Good
30 - 59p Moderate
0 - 29p Low

80/100

Good health effects

STRESS AND RECOVERY BALANCE

60 - 100p Good
30 - 59p Moderate
0 - 29p Low

44/100

Stress and recovery balance was moderate.

RESTORATIVE EFFECT OF SLEEP

60 - 100p Good
30 - 59p Moderate
0 - 29p Low

58/100

The sleep period was shorter than recommended and recovery was only moderate.

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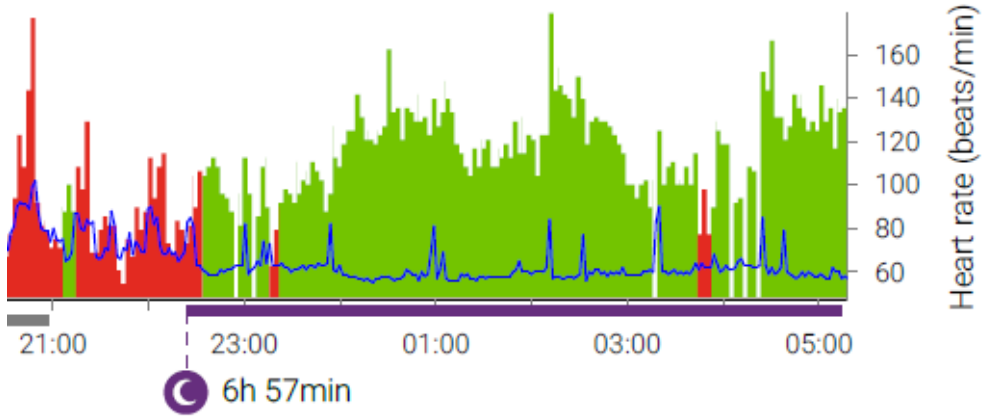
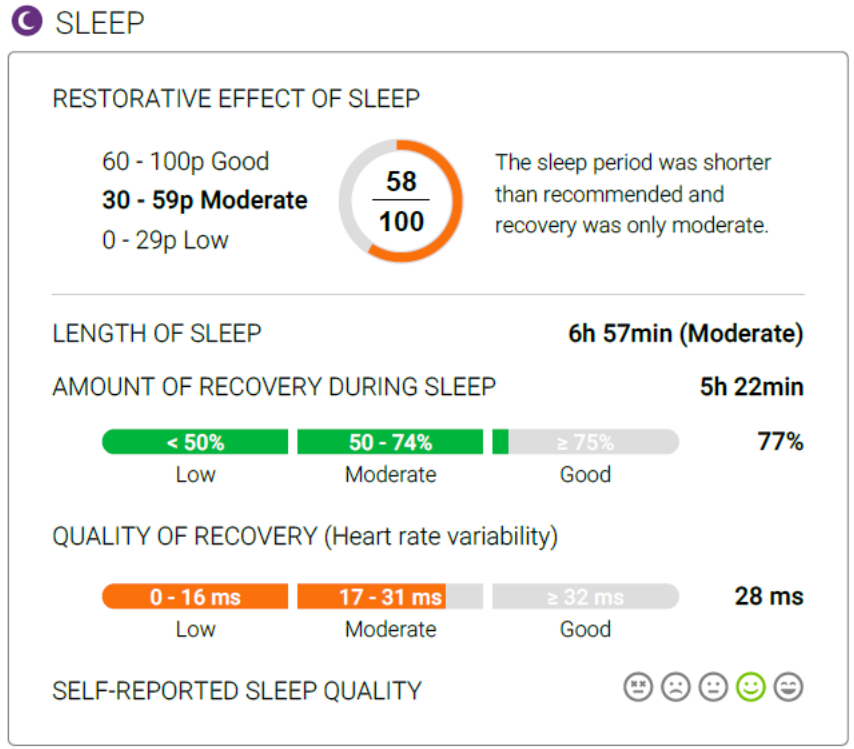
DO YOU RECOVER DURING SLEEP?





- **Length of sleep** means sleep duration as recorded in the journal, from going to bed to waking up.
- **Amount of recovery during sleep** is on average 60% (Firstbeat 2016).
- **Quality of recovery** = average amount of heart rate variability during sleep, in reference to your age group.

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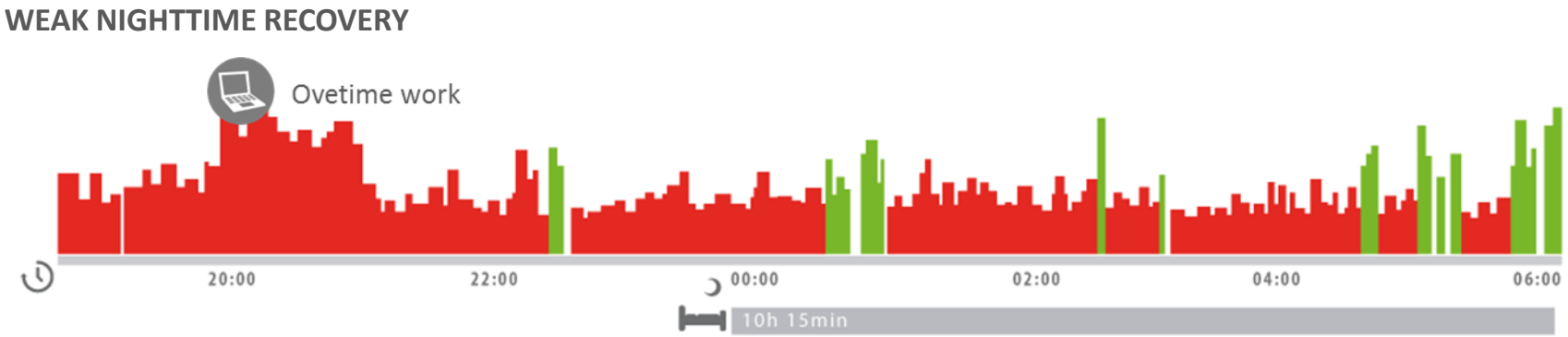
RECOGNIZE YOUR STRESSORS



- Alcohol
- Illnesses and medications
- Pain
- Work stress
- Chronic sleep problems
- Shift work, jetlag
- Intensive exercise before bed or a physically overloading day
- Stressful activities before bedtime (e.g. work emails/chores)
- Stimulants or stimulating activities (e.g. computer games)
- Poor fitness level
- Overweight
- Menopause
- Negative emotions and thoughts

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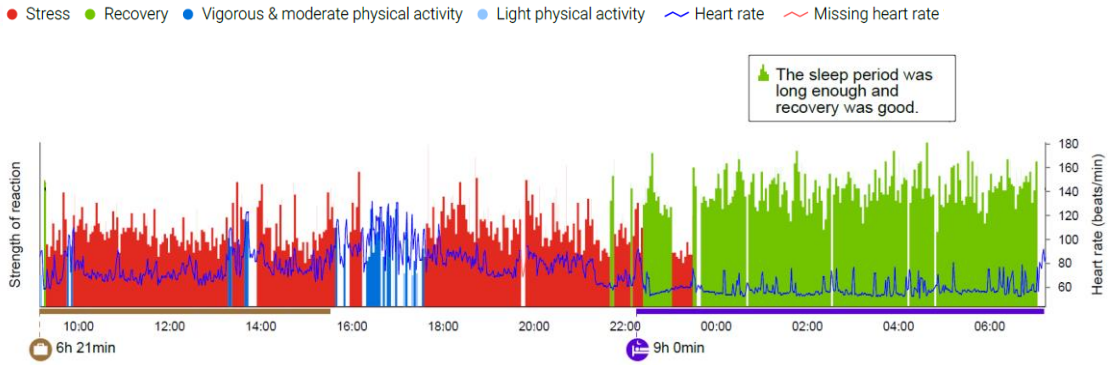
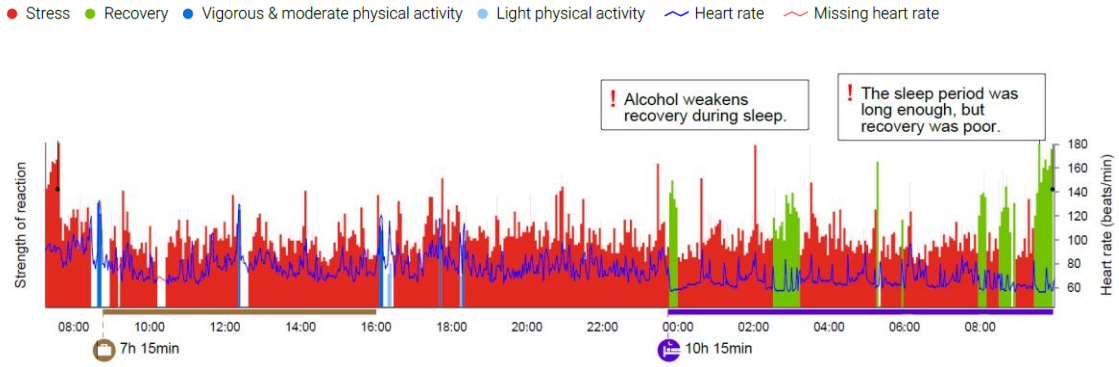
ALCOHOL WEAKENS RECOVERY

44-year-old healthy woman, BMI 21.3





Thursday

No alcohol, lowest heart rate 40

LENGTH OF SLEEP	**7h 15min (Good)**
AMOUNT OF RECOVERY DURING SLEEP	**6h 39min**
< 50% Low / 50 - 74% Moderate / ≥ 75% Good	**92%**
QUALITY OF RECOVERY (Heart rate variability)	
0 - 16 ms Low / 17 - 32 ms Moderate / ≥ 33 ms Good	**66 ms**
SELF-REPORTED SLEEP QUALITY	

Friday

3 portions of alcohol, lowest heart rate 43

LENGTH OF SLEEP	**9h 15min (Good)**
AMOUNT OF RECOVERY DURING SLEEP	**5h 5min**
< 50% Low / 50 - 74% Moderate / ≥ 75% Good	**55%**
QUALITY OF RECOVERY (Heart rate variability)	
0 - 16 ms Low / 17 - 32 ms Moderate / ≥ 33 ms Good	**64 ms**
SELF-REPORTED SLEEP QUALITY	

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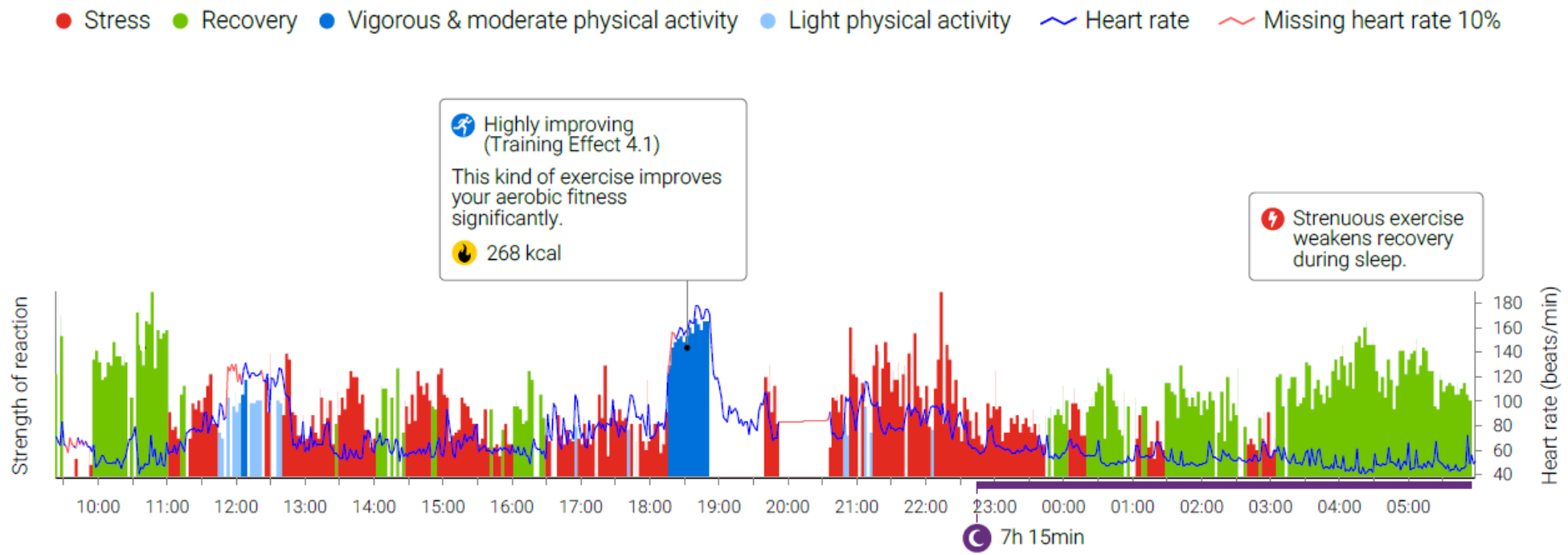
INTENSIVE EXERCISE CAN DELAY OPTIMAL NIGHTTIME RECOVERY



HEALTH EFFECTS OF PHYSICAL ACTIVITY

60 - 100p Good
30 - 59p Moderate
0 - 29p Low

100
100

Good health effects

RESTORATIVE EFFECT OF SLEEP

60 - 100p Good
30 - 59p Moderate
0 - 29p Low

50
100

The sleep period was long enough, but recovery was only moderate.

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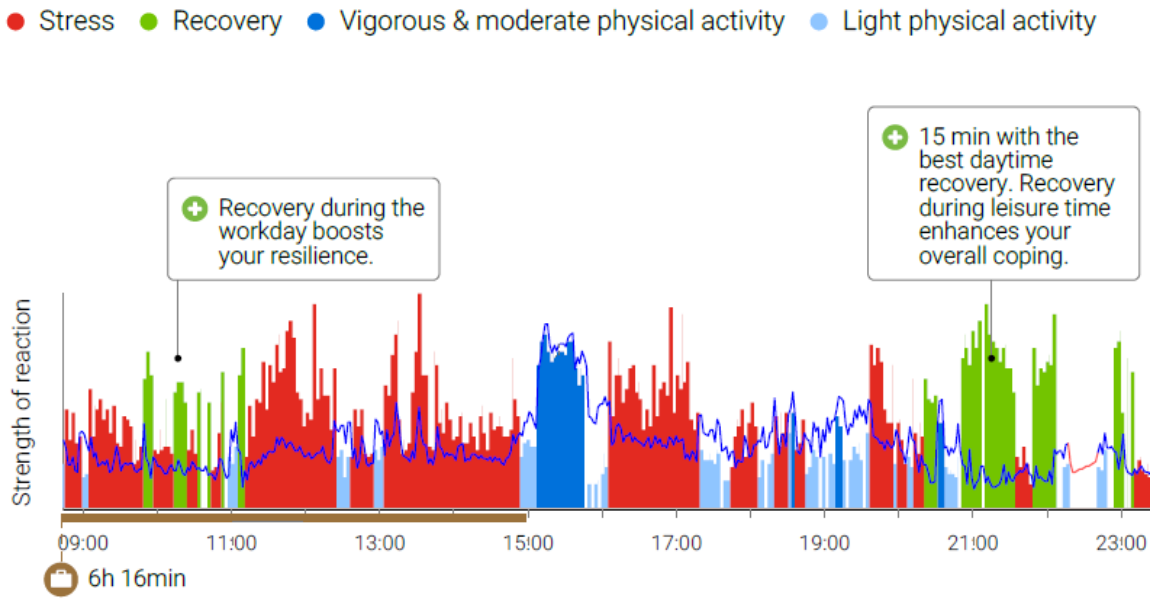
TIPS FOR GOOD SLEEP

- Avoid stressors / factors known to weaken recovery (e.g. alcohol, stimulants)
- Avoid high-intensity exercise within 3-4 hours before sleep
- Learn to *slow down* in the evening (e.g. reading, listening to music, relaxation exercises)
- Regular sleep rhythm and sleep preparation routines
- Pleasant, quiet and dark sleeping area
- Light evening snack that promotes sleep
- Work through worries / stressful things already during the day

DO YOU HAVE RECOVERY MOMENTS DURING THE DAY?



STRESS AND RECOVERY

STRESS AND RECOVERY BALANCE

60 - 100p Good
30 - 59p Moderate
0 - 29p Low

79/100

Stress and recovery balance was good.

AMOUNT OF STRESS REACTIONS — 8h 8min

≤ 60%	> 60%
Normal	More than usual

37%

AMOUNT OF RECOVERY (DAY & NIGHT) — 7h 20min

< 20%	20 - 29%	≥ 30%
Low	Moderate	Good

33%

A lot of recovery during the daytime (1h 47min).

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ARE STRESS AND RECOVERY IN BALANCE?

STRESS AND RECOVERY

STRESS AND RECOVERY BALANCE

60 - 100p Good
30 - 59p Moderate
0 - 29p Low

64
100

Stress and recovery balance was good.

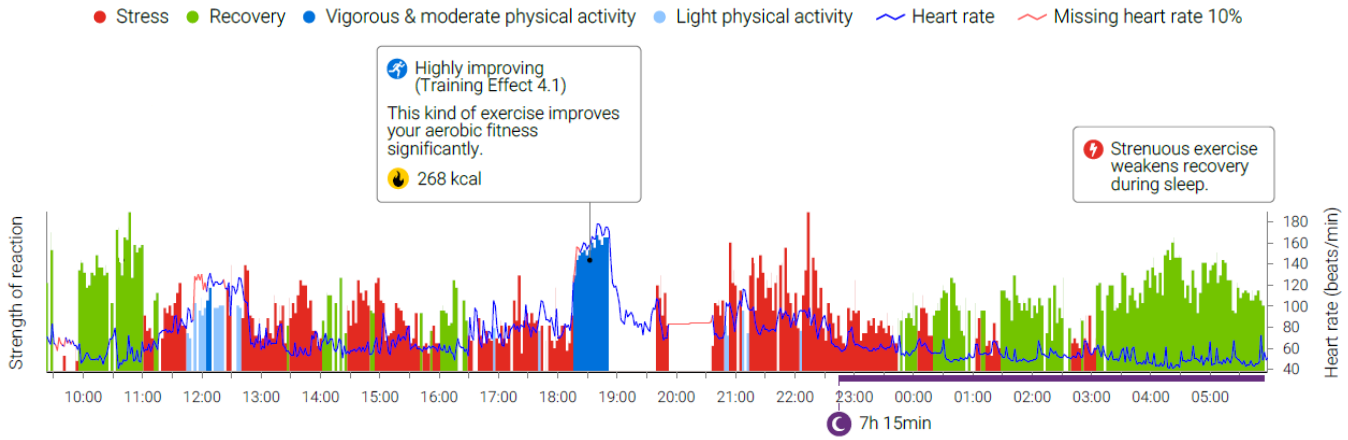
AMOUNT OF STRESS REACTIONS **7h 49min**

≤ 60%	> 60%	
Normal	More than usual	**38%**

AMOUNT OF RECOVERY (DAY & NIGHT) **5h 38min**

< 20%	20 - 29%	≥ 30%	
Low	Moderate	Good	**27%**

A lot of recovery during the daytime (1h 25min).



Amount of stress reactions on average 50% / day + night (Firstbeat 2017).
Amount of recovery on average 26% / day + night (Firstbeat 2017).

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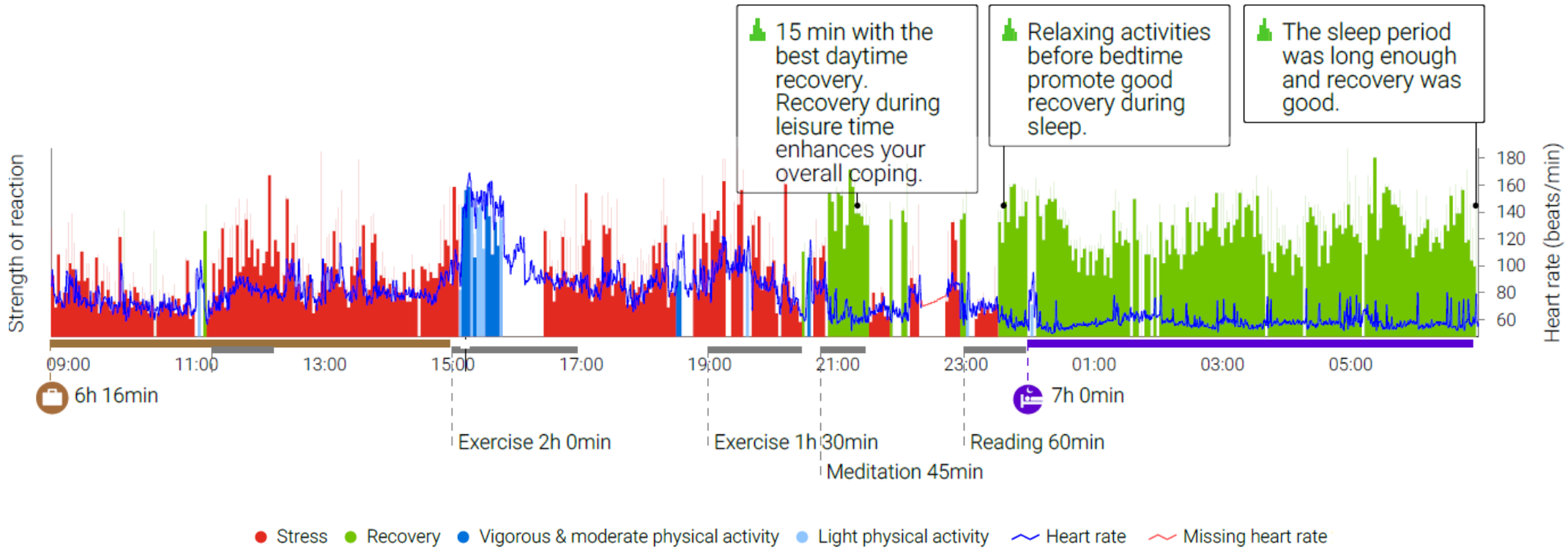
FIND A MEANINGFUL WAY TO RELAX

- Relaxation / breathing exercises, meditation, yoga, stretching
- Listening to music, reading, watching TV
- Sauna, baths, heat treatments, massage
- Enjoyable hobbies: playing music, cooking, crafts
- Strolling in nature, fishing, picking berries
- Quality time with pets / family; humour

EXAMPLE OF GOOD RECOVERY



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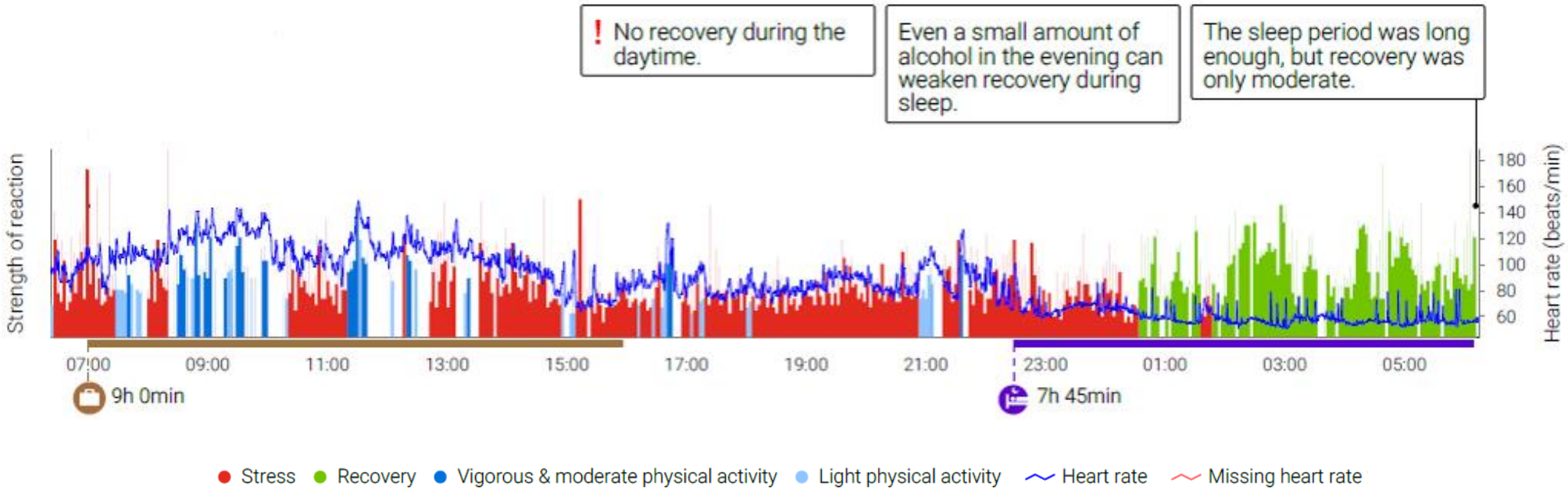
EXAMPLE OF MODERATE RECOVERY



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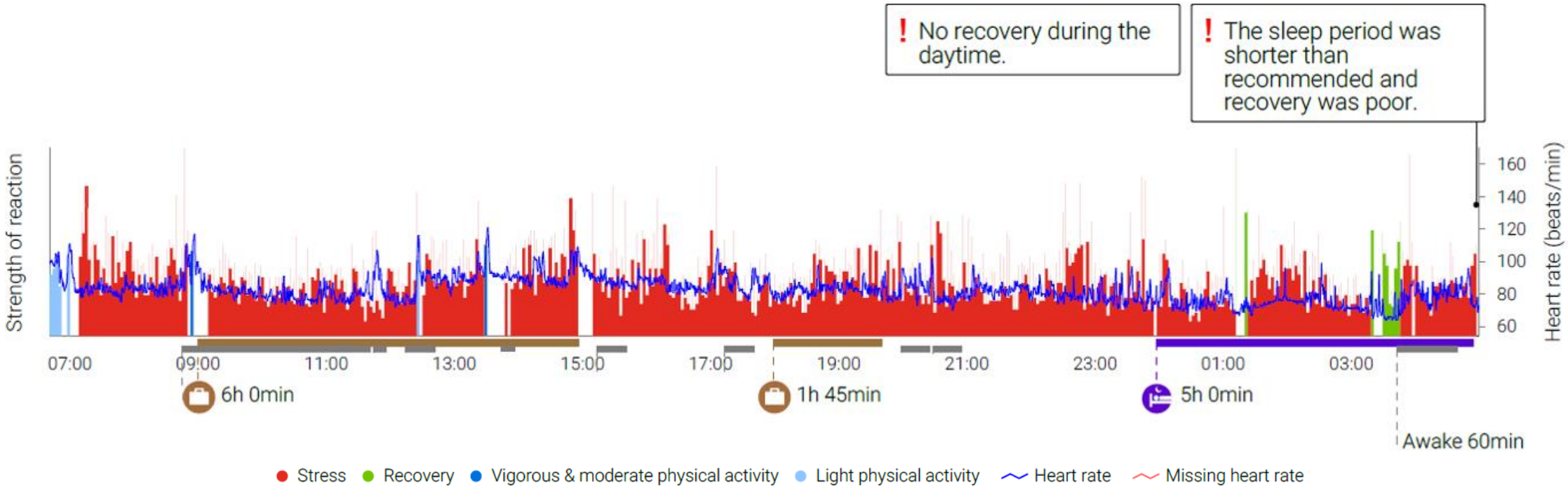
EXAMPLE OF WEAK RECOVERY



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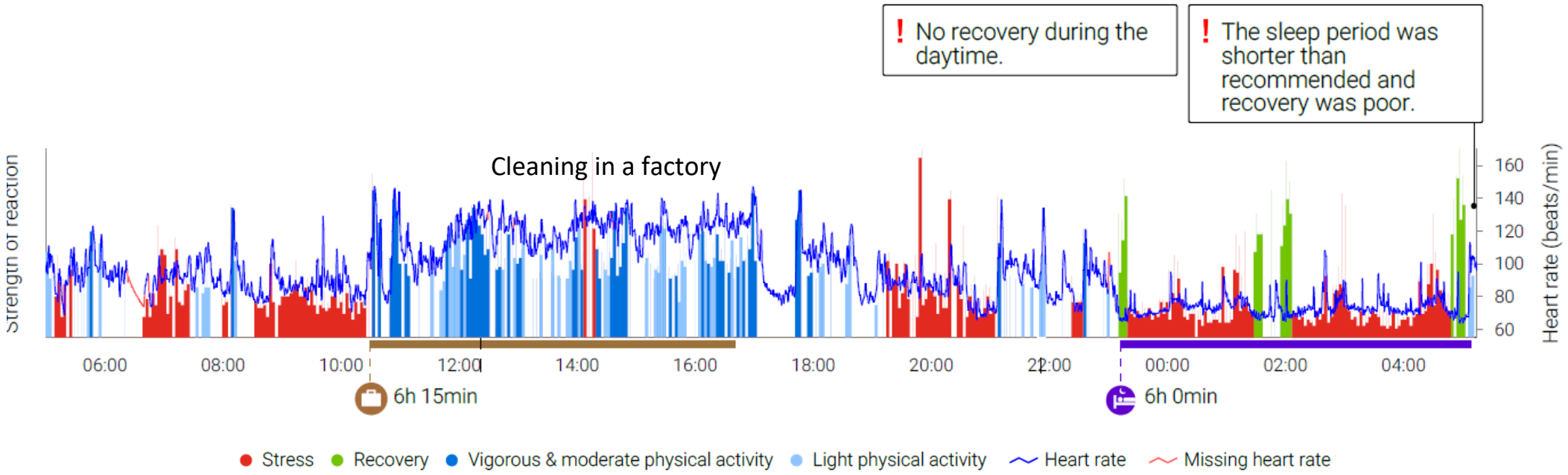
POOR FITNESS & HEAVY PHYSICAL WORKLOAD WEAKEN RECOVERY



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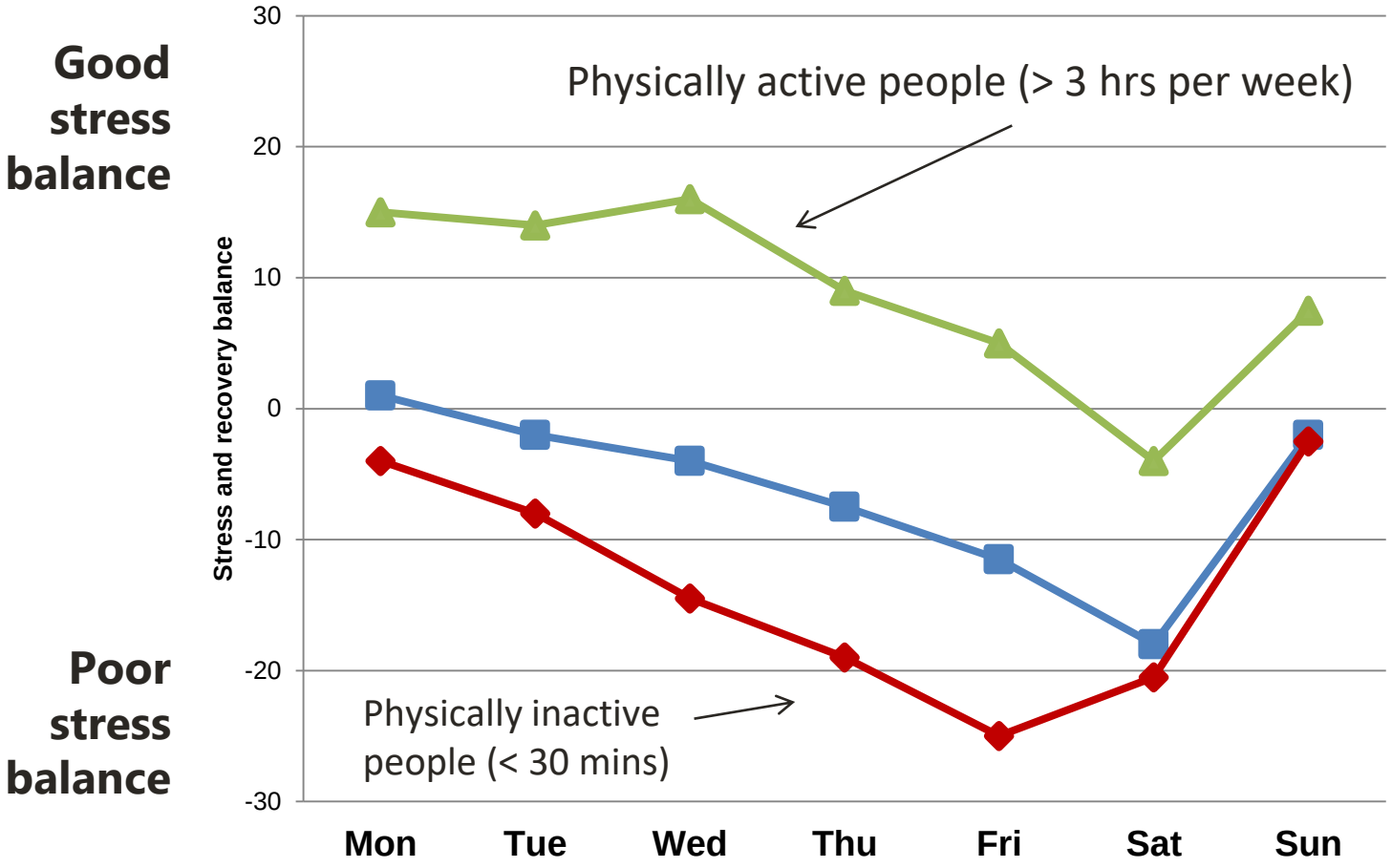
BETTER FITNESS IMPROVES YOUR ABILITY TO RECOVER



- The balance between stress and recovery over 24-hr periods, in relation to physical activity
- Increasing the amount of physical activity by a couple of hours per week improves the ability to recover significantly!

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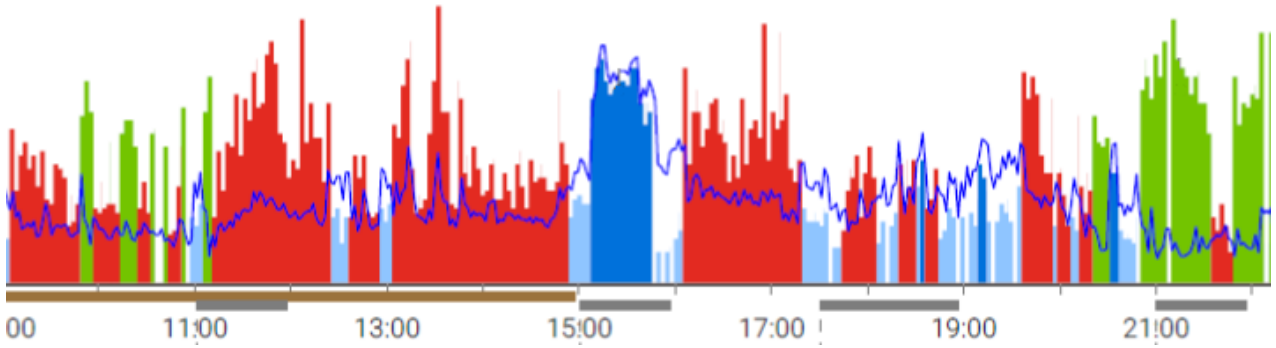
WHAT ARE THE HEALTH EFFECTS OF PHYSICAL ACTIVITY?



HEALTH EFFECTS OF PHYSICAL ACTIVITY

60 - 100p Good
30 - 59p Moderate
0 - 29p Low

100
100

Good health effects

DURATION OF PHYSICAL ACTIVITY	Light	Moderate	Vigorous
	2h 40min	**8min**	**31min**

- Physical activity score accumulates based on intensity and duration. For the same score, a longer duration of lower intensity activity is required than higher intensity.
- A good score (60p.) can be reached for example with 30 mins of moderate or 20 mins of vigorous physical activity.
- NOTE! This analysis measures how much the physical activity loads your cardiovascular system. The effects of strength or speed training, pilates or flexibility exercise are not reflected here.

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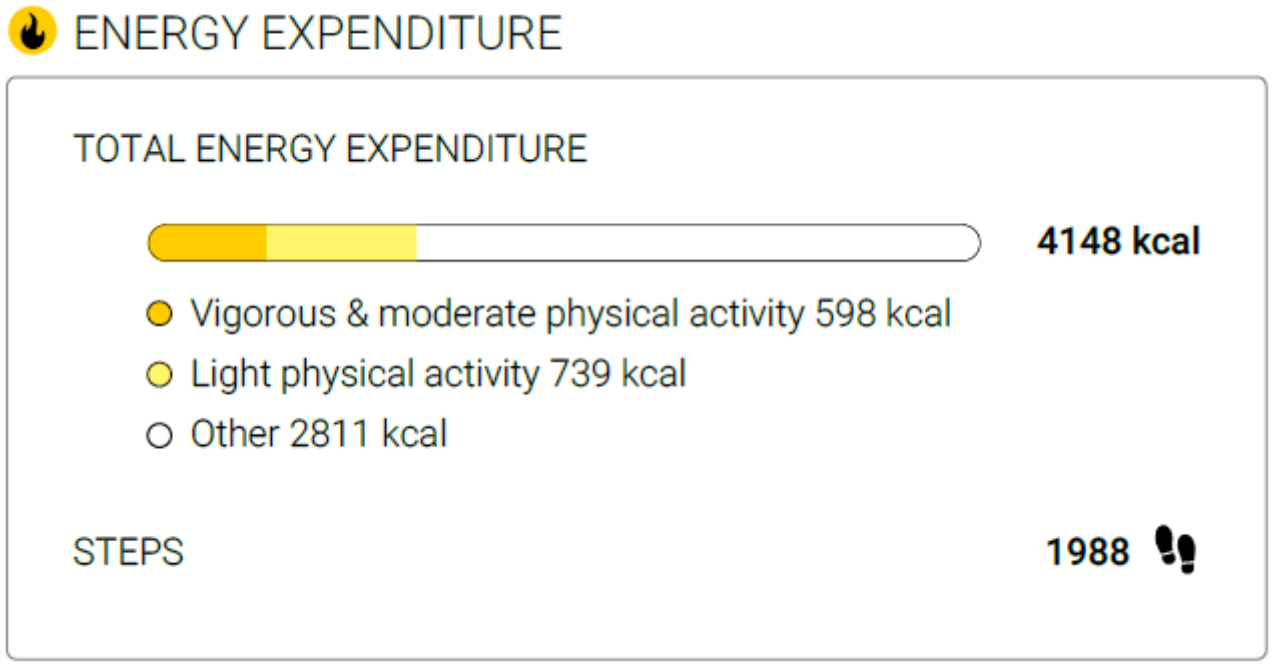
ENERGY EXPENDITURE AND STEPS



NOTE! Steps are rexognized from the movement data during walking and running. Steps do not accumulate during cycling or very light movement. 10 000+ steps per day characterize a very active day.

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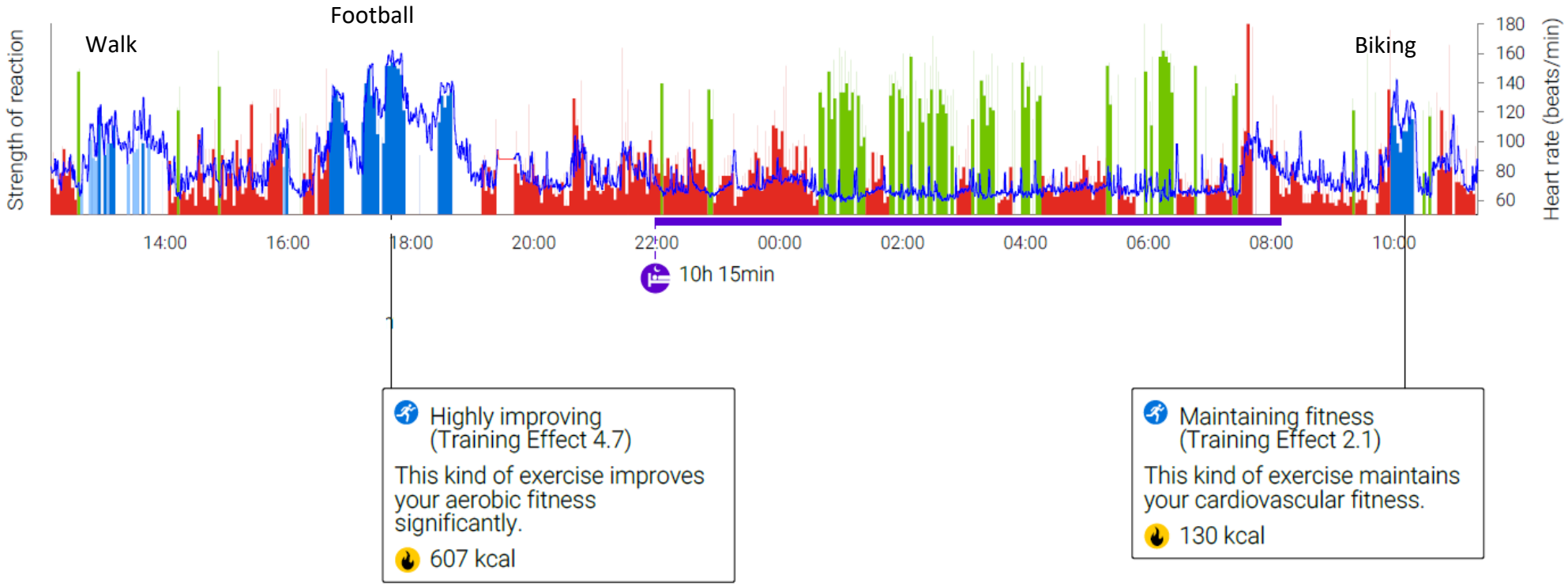
DOES YOUR EXERCISE IMPROVE YOUR FITNESS?



Training effect (TE) tells the effect of the exercise session on aerobic fitness. The scale of TE is 1-5.

5.0 Temporary overreaching
4.0 - 4.9 Highly improving
3.0 - 3.9 Improving
2.0 - 2.9 Maintaining
1.0 - 1.9 Easy recovery

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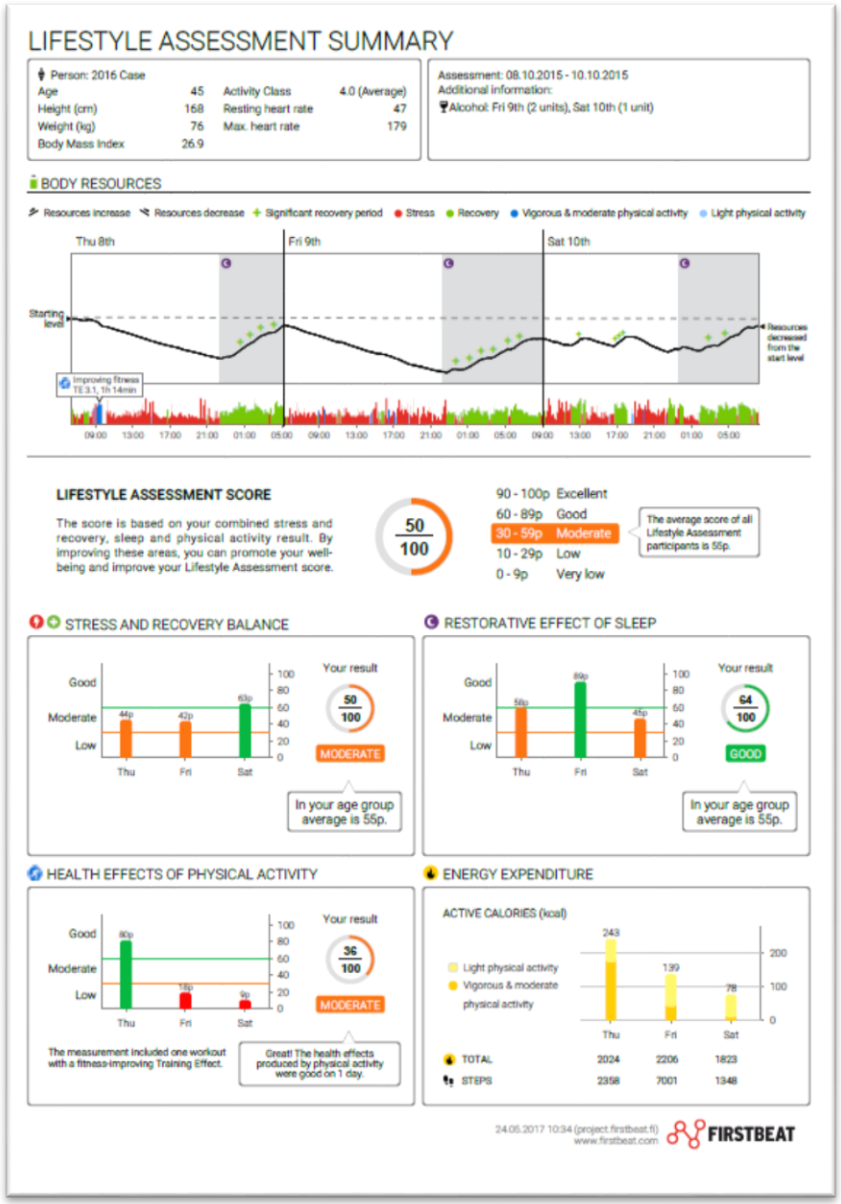
BASIC PRINCIPLES OF EXERCISE

- Start moderately. Increasing your training volume or intensity too quickly can cause overtraining or injuries.
- A fit person can handle a harder training load than a beginning exerciser / an unfit person.
- An overloaded body cannot tolerate high-intensity exercise. Many illnesses also put restrictions on the ability to exercise, especially intensively.
- Even a small amount of physical activity daily promotes health. It’s better to do something than to be completely inactive.
- Good forms of exercise include for example:
    - Brisk walking, biking, swimming
    - Running, Nordic skiing, heavy physical work
    - Gym training, group exercise, dancing
    - Stretching, coordination exercises, yoga, Pilates

LIFESTYLE ASSESSMENT – SUMMARY OF KEY RESULTS



LIFESTYLE ASSESSMENT SUMMARY

Person: 2016 Case

Age	45	Activity Class	4.0 (Average)
Height (cm)	168	Resting heart rate	47
Weight (kg)	76	Max. heart rate	179
Body Mass Index	26.9		

Assessment: 08.10.2015 - 10.10.2015
Additional information:
Alcohol: Fri 9th (2 units), Sat 10th (1 unit)

BODY RESOURCES

Resources increase · Resources decrease · Significant recovery period · Stress · Recovery · Vigorous & moderate physical activity · Light physical activity

LIFESTYLE ASSESSMENT SCORE

The score is based on your combined stress and recovery, sleep and physical activity result. By improving these areas, you can promote your well-being and improve your Lifestyle Assessment score.

50/100

90 - 100p Excellent
60 - 89p Good
30 - 59p Moderate
10 - 29p Low
0 - 9p Very low

The average score of all Lifestyle Assessment participants is 55p.

STRESS AND RECOVERY BALANCE

RESTORATIVE EFFECT OF SLEEP

HEALTH EFFECTS OF PHYSICAL ACTIVITY

ENERGY EXPENDITURE

ACTIVE CALORIES (kcal)

	Thu	Fri	Sat
TOTAL	2024	2206	1823
STEPS	2358	7001	1348

24.05.2017 10:34 (project.firstbeat.fi)
www.firstbeat.com
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ARE YOU BUILDING YOUR BODY'S RESOURCES?

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WHAT WAS YOUR OVERALL SCORE?

LIFESTYLE ASSESSMENT SCORE

The score is based on your combined stress and recovery, sleep and physical activity result. By improving these areas, you can promote your well-being and improve your Lifestyle Assessment score.

90 - 100p	Excellent
60 - 89p	Good
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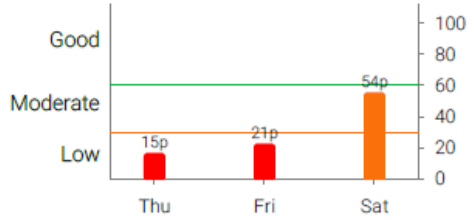
STRESS AND RECOVERY BALANCE

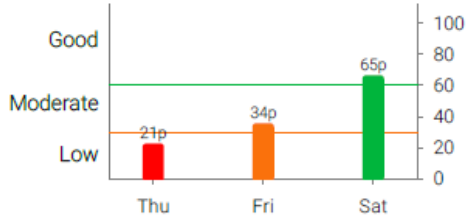


Your result

MODERATE

In your age group average is 55p.

RESTORATIVE EFFECT OF SLEEP

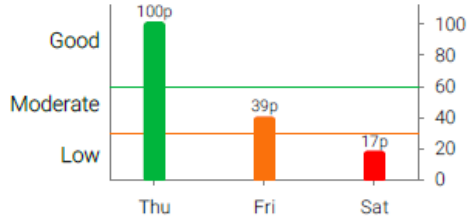


Your result

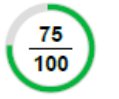
MODERATE

In your age group average is 55p.

HEALTH EFFECTS OF PHYSICAL ACTIVITY



Your result



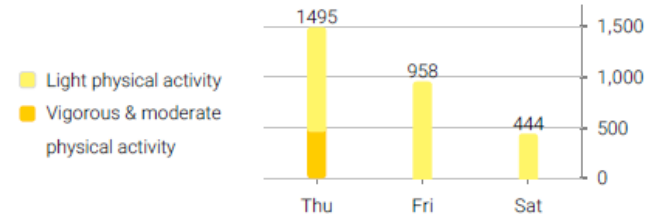
GOOD

The measurement did not include fitness-improving workouts (Training Effect 3.0 or higher).

Great! The health effects produced by physical activity were good on 1 day.

ENERGY EXPENDITURE

ACTIVE CALORIES (kcal)

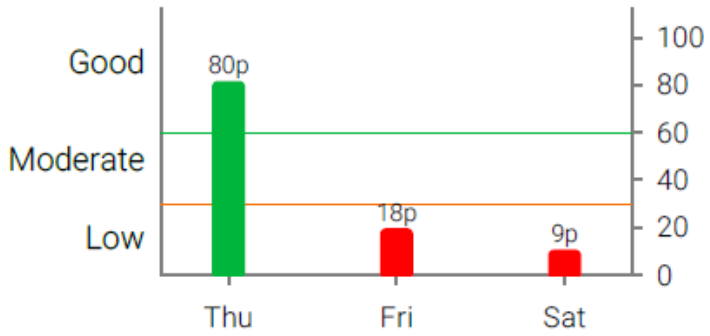


	Thu	Fri	Sat
TOTAL	3987	3009	2558

FIRSTBEAT

PHYSICAL ACTIVITY, ENERGY EXPENDITURE AND STEPS

HEALTH EFFECTS OF PHYSICAL ACTIVITY



Your result

36
100

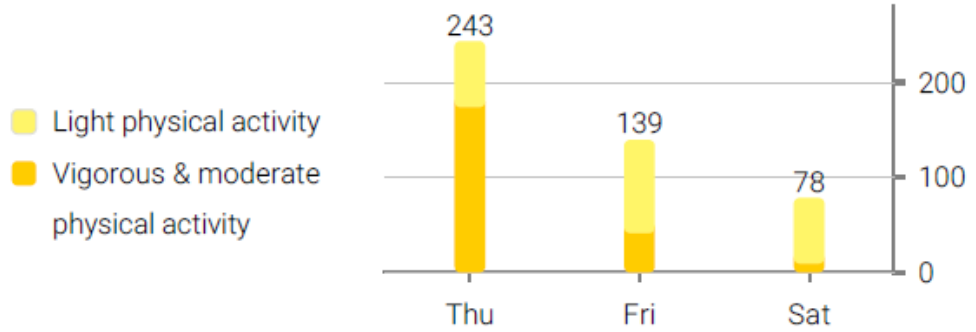
MODERATE

The measurement included one workout with a fitness-improving Training Effect.

Great! The health effects produced by physical activity were good on 1 day.

ENERGY EXPENDITURE

ACTIVE CALORIES (kcal)



	Thu	Fri	Sat
TOTAL	2024	2206	1823
STEPS	2358	7001	1348

FIRSTBEAT

SETTING A GOAL

GOALS

Please set some personal goals for making changes in your lifestyle.

Stress management

- ☐ I will set a realistic work schedule.
- ☐ I will take regular short breaks during the work day.
- ☐ After the workday, I will try to disengage from work by doing things that I enjoy.
- ☐ I will learn to say "No".

Recovery and sleep

- ☐ I will continue to engage in my hobbies because positive experiences enhance my well-being.
- ☐ I will try to relax on a regular basis (e.g. relaxation techniques, music, TV, reading).
- ☐ I will avoid stressful things just before bedtime (e.g. alcohol, work and electronic devices).
- ☐ I will attempt to go to bed early enough to get enough sleep.

Physical activity

- ☐ I will find an enjoyable form of exercise to engage in regularly.
- ☐ I will increase the amount of light physical activity, e.g. by using the stairs, walking short distances and avoiding uninterrupted sitting.
- ☐ I will attempt to engage in physical activity at least ____ times per week.
- ☐ I will take care of my muscles by including stretching as part of my weekly exercise routine.

Nutrition

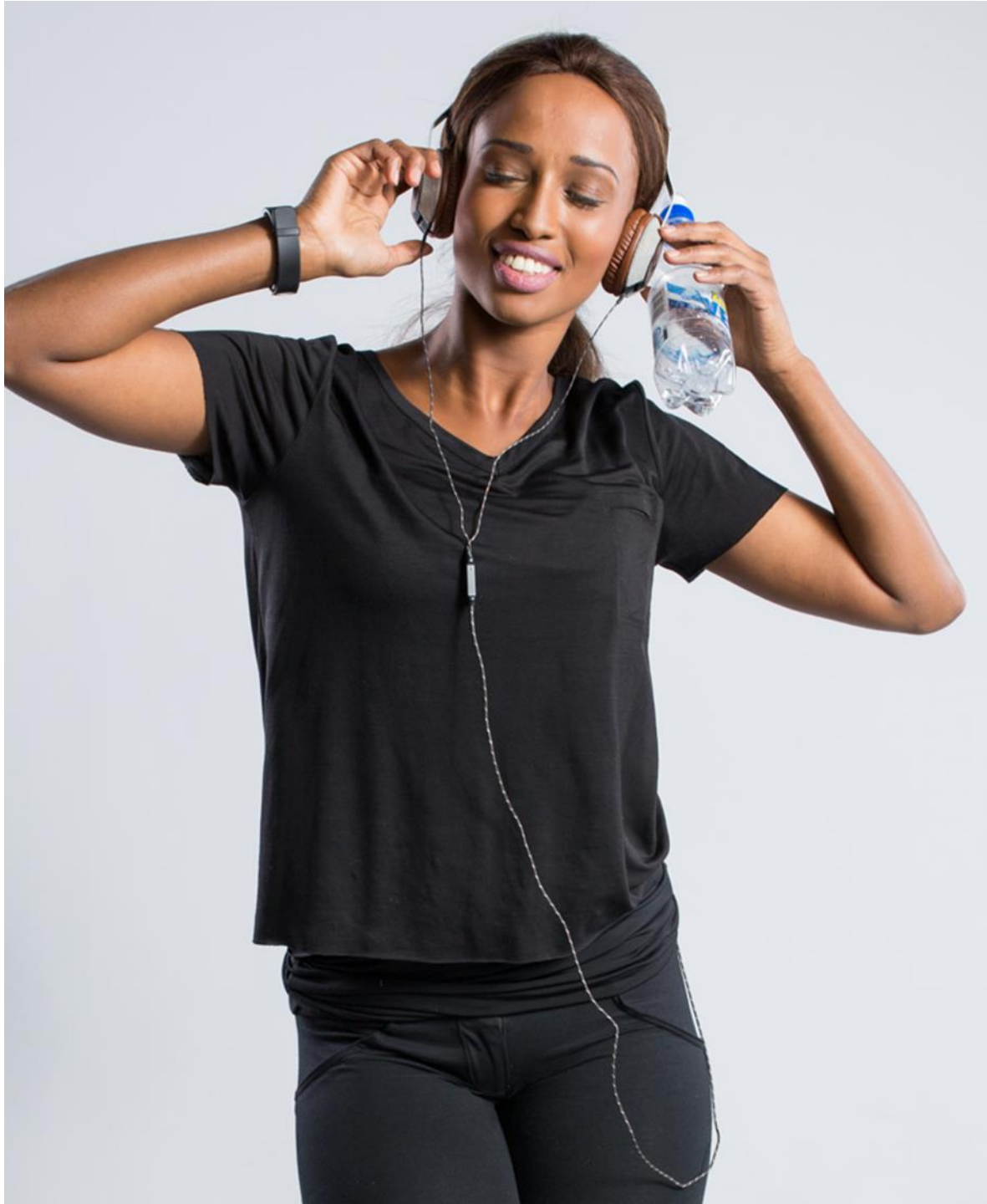
- ☐ I will maintain a regular meal rhythm.
- ☐ I will pay attention to the quality of what I eat, e.g. avoid products that contain excessive fats, sugar or salt.
- ☐ I will lose weight ____ kg.
- ☐ I will remember to drink and eat regularly, even when I'm busy.

FIRSTBEAT

GOALS THAT PEOPLE TYPICALLY SET TO IMPROVE WELL-BEING

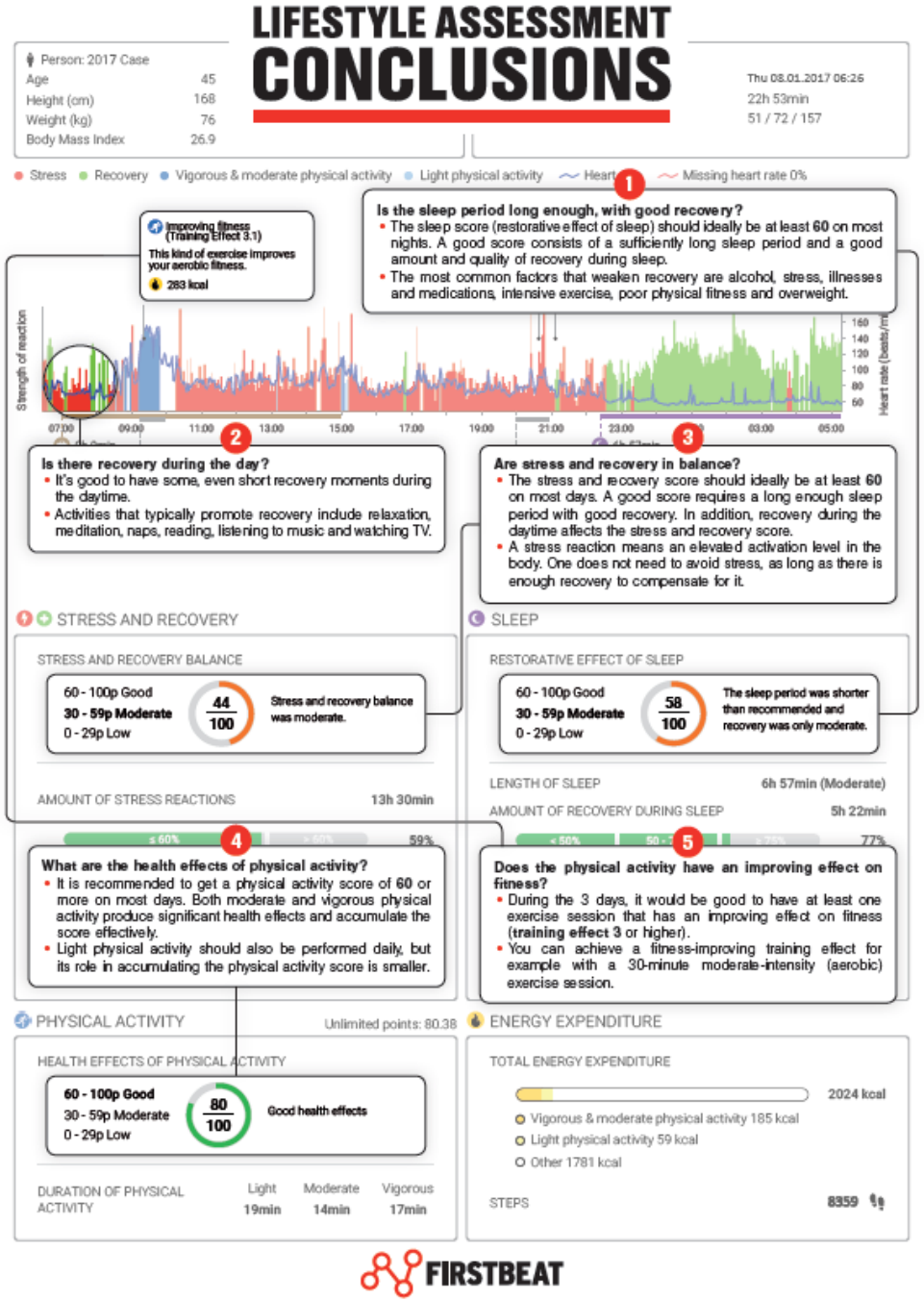
- Identify personal stress factors & learn better stress management
- Make time for even short recovery moments
- Find an enjoyable physical activity
- Increase the amount of sleep (34%)
- Reduce use of alcohol and stimulants

Source: Firstbeat database, app. 100 000 measurements



LIFESTYLE ASSESSMENT CONCLUSIONS

1. Is the sleep period long enough, with good recovery?
2. Is there recovery during the day?
3. Are stress and recovery in balance?
4. What are the health effects of physical activity?
5. Does the physical activity have an improving effect on fitness?



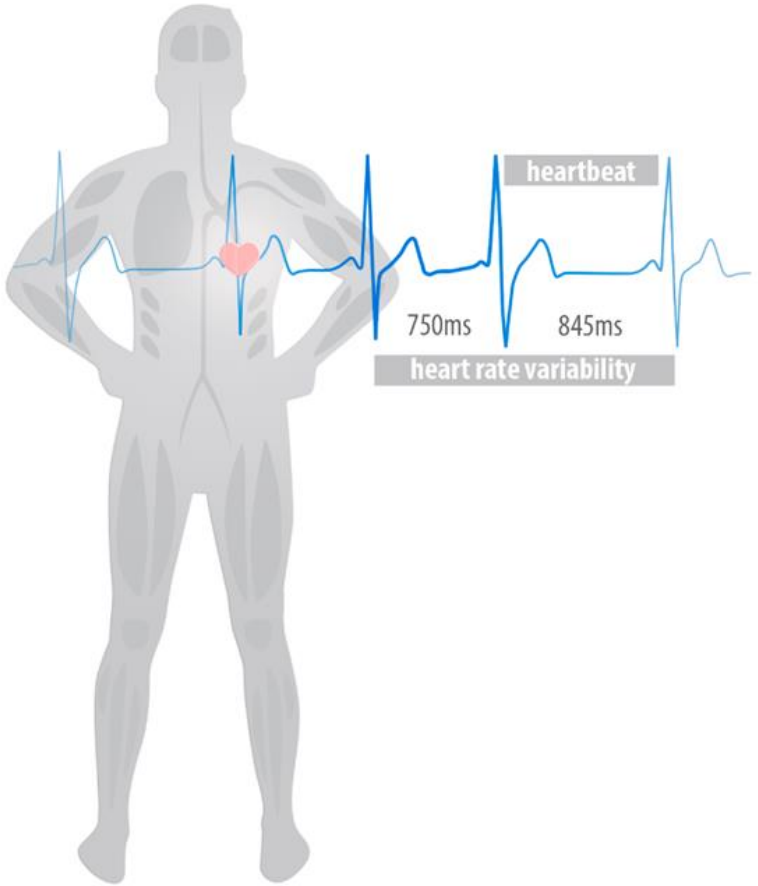
PRACTISE / DISCUSSION

- What kinds of observations / conclusions did you make of your result?
- Name 2 positive things and 2 improvement areas from your own result

FIRSTBEAT

PHYSIOLOGICAL BACKGROUND - HOW TO ANALYZE STRESS FROM HEART RATE?

TERMINOLOGY

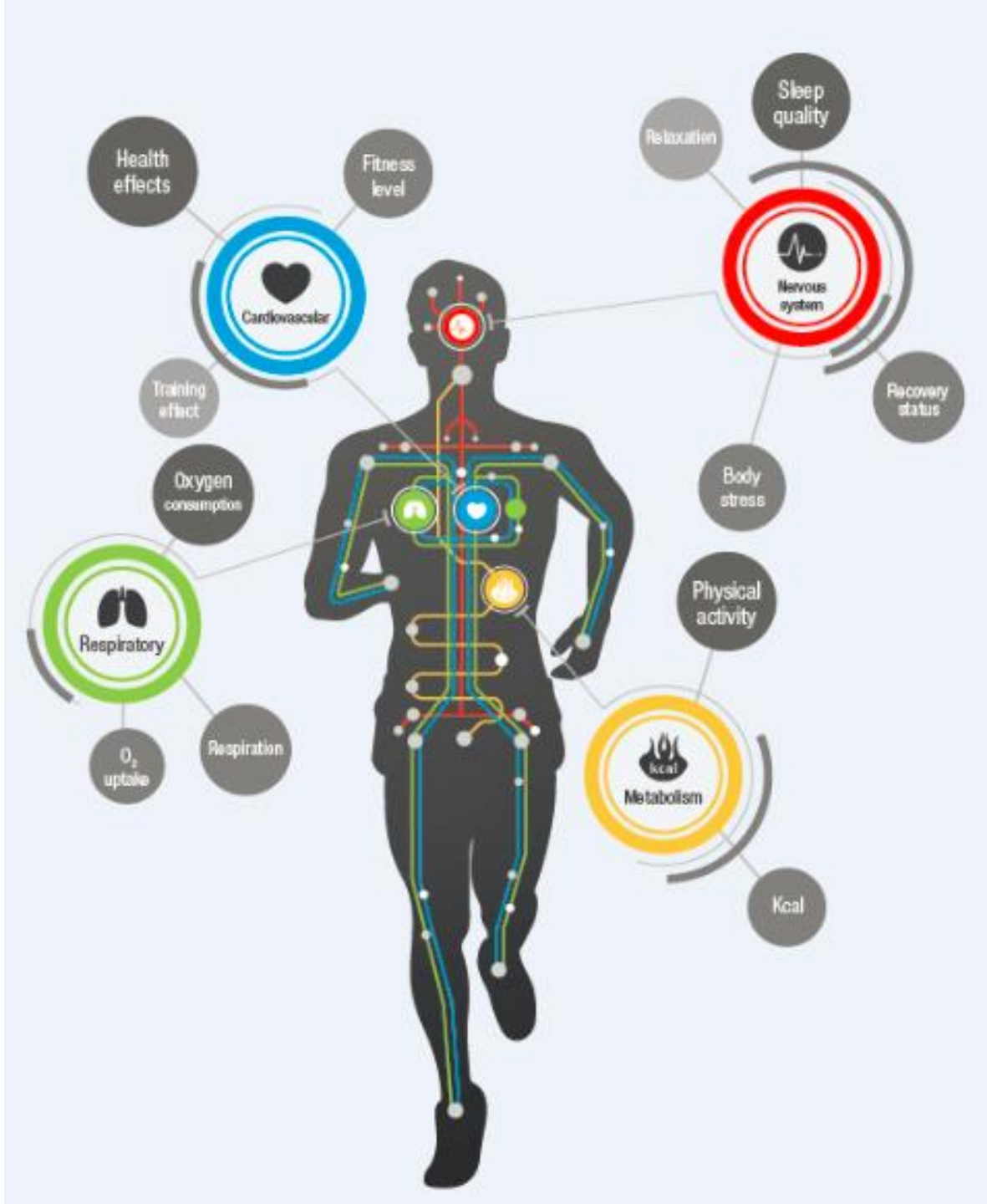


- **Heart rate** (HR): heartbeat frequency as beats per minute (bpm)
- **Heartbeat** (R-R interval): time between consecutive heartbeats (R-waves) in milliseconds (ms)
- **Heart rate variability (HRV)**: beat-to-beat variation in the time between consecutive R-R intervals

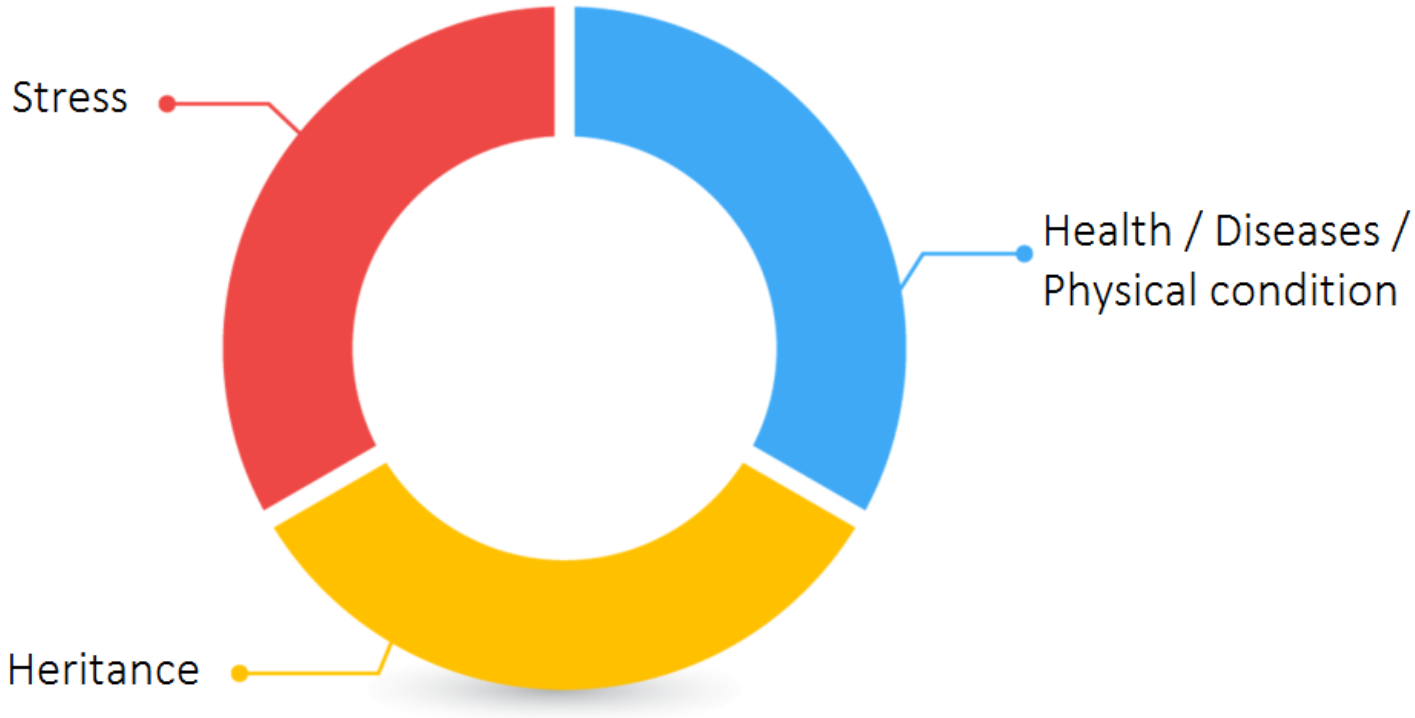
FIRSTBEAT

HEART RATE VARIABILITY: A WINDOW TO THE BODY

- The heart reacts to constantly changing situations via the autonomic nervous system, by causing variation in the time between consecutive heartbeats.
- At rest and during relaxation, HRV increases, whereas during some kind of stress, HRV decreases.
- Many factors affect HRV, such as age, physical fitness, health status, and different stressors.
- In general, high HRV is considered a sign of a healthy heart, whereas low values can indicate internal or external stress or weak recovery.



FACTORS AFFECTING HEART RATE VARIABILITY



(Lindholm 2007)

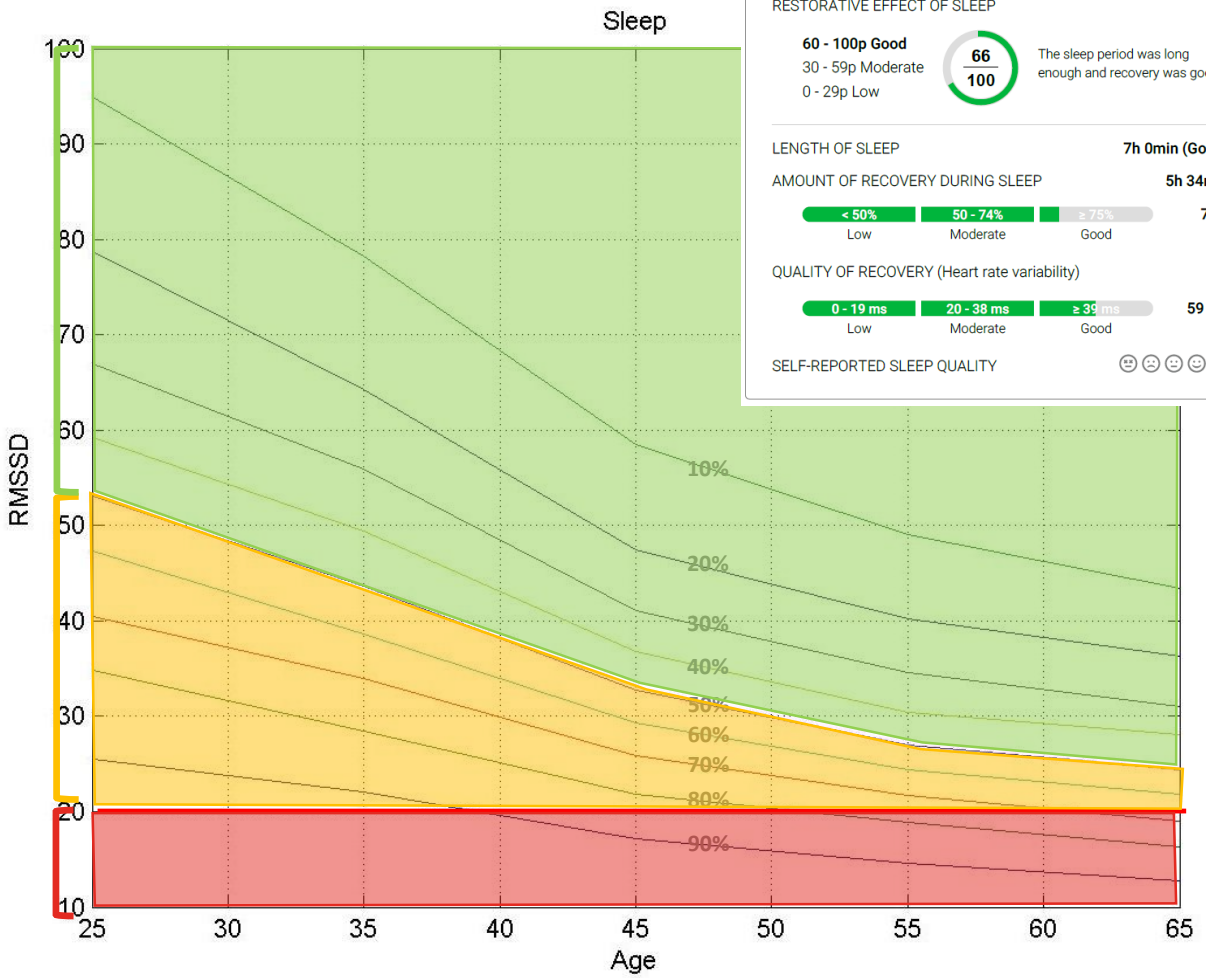
FIRSTBEAT

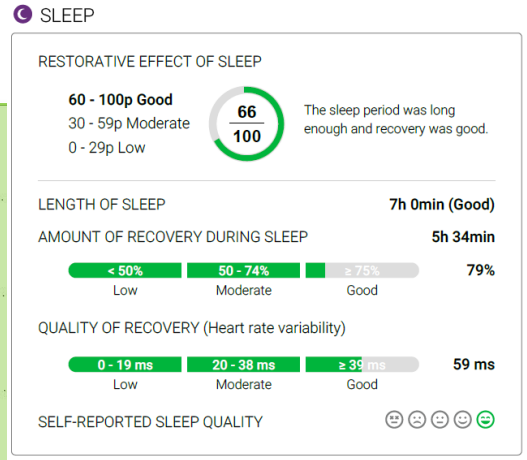
EFFECT OF AGE ON HEART RATE VARIABILITY

Good
RMSSD is in the highest 50% of your age group average

Moderate
RMSSD is between 10 and 50% of your age group average

Poor
RMSSD is in the lowest 10% of your age group average

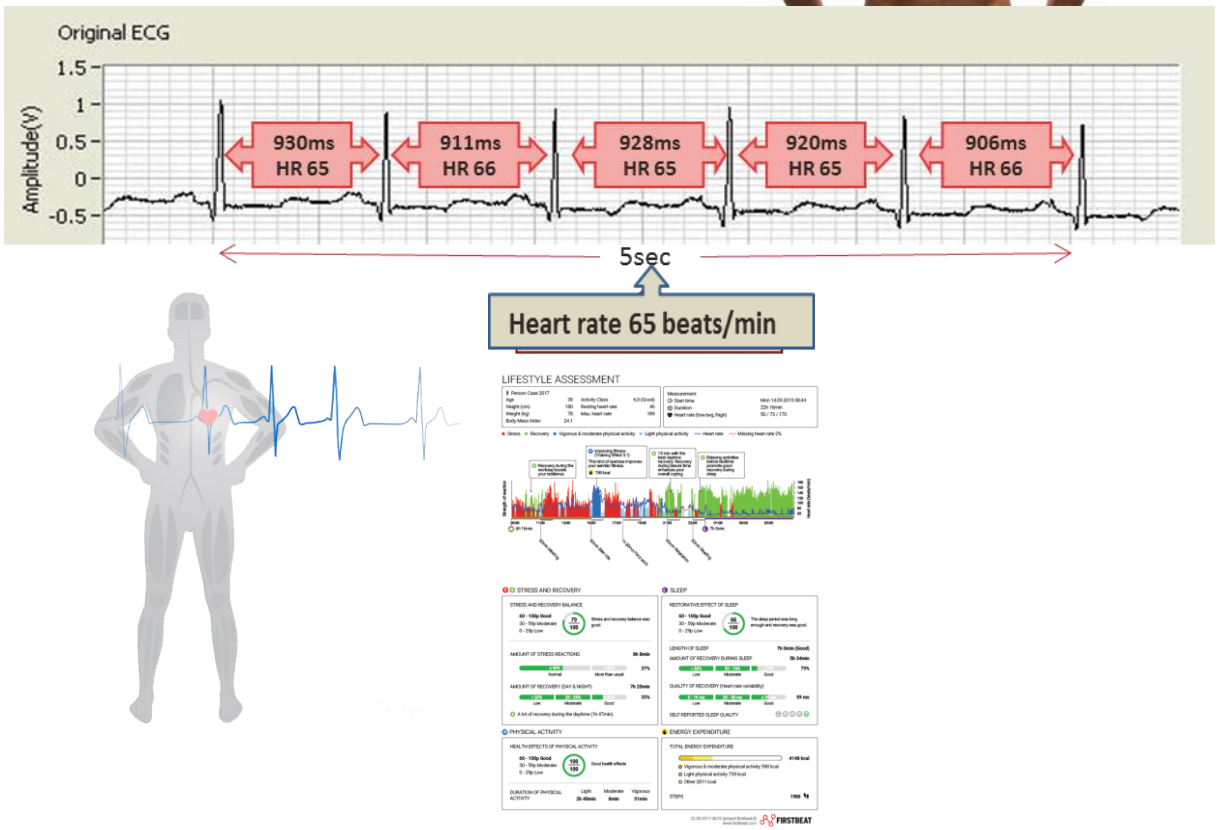




FIRSTBEAT

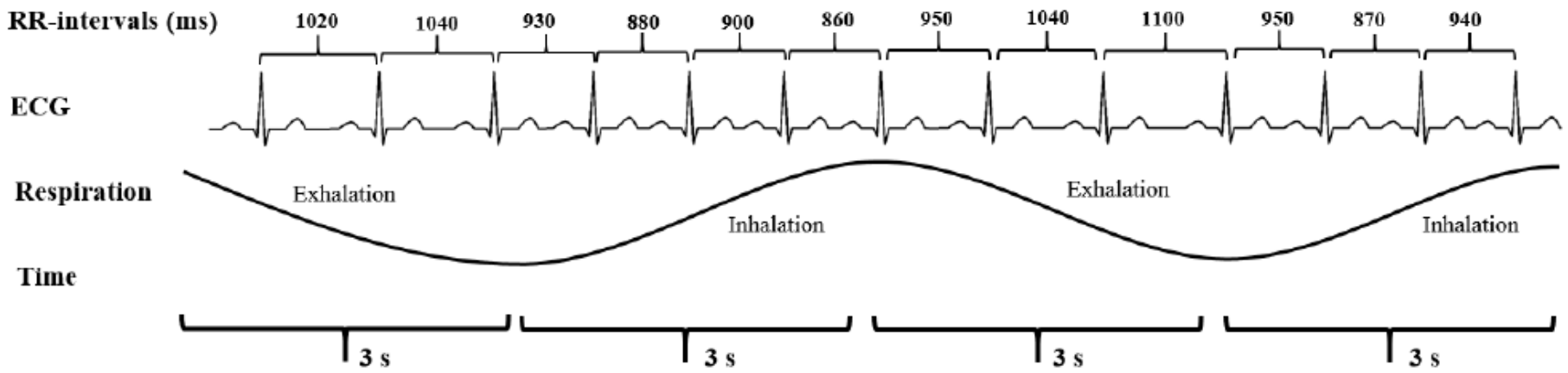
MEASURING HEART RATE VARIABILITY

- Bodyguard 2 device records every heartbeat and the time between beats in milliseconds (ms).
- Heartbeat data is uploaded from the Bodyguard to Lifestyle Assessment for analysis
- HRV is used to estimate:
  - respiration frequency
  - oxygen uptake
  - energy expenditure
  - training effect (EPOC)
  - recovery and stress
- Read more about Firstbeat's physiological modeling: White papers



FIRSTBEAT

EFFECT OF RESPIRATION ON HEART RATE VARIABILITY



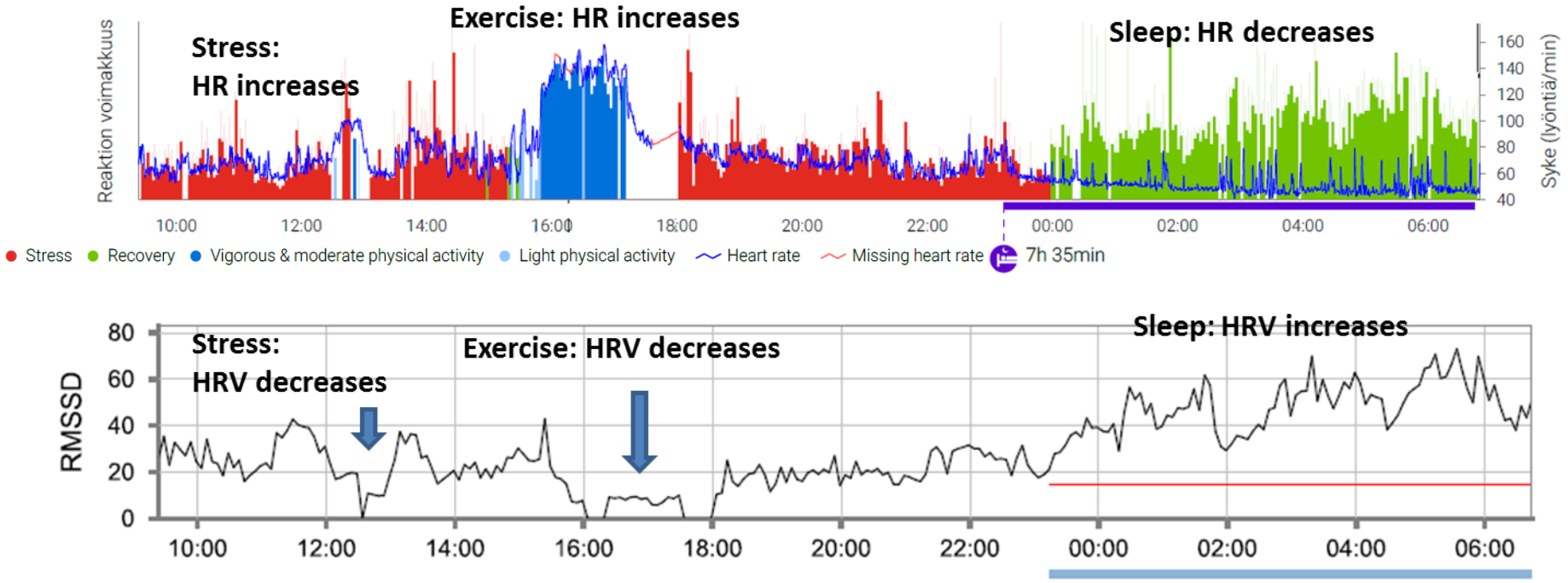
The image demonstrates how the cyclic variation of breathing (RSA respiratory sinus arrhytmia) affects heart rate variability.

Exhalation:	**HR drops**	**HRV increases**
Inhalation:	**HR increases**	**HRV decreases**

FIRSTBEAT

WHEN HR DROPS, HRV GETS BIGGER

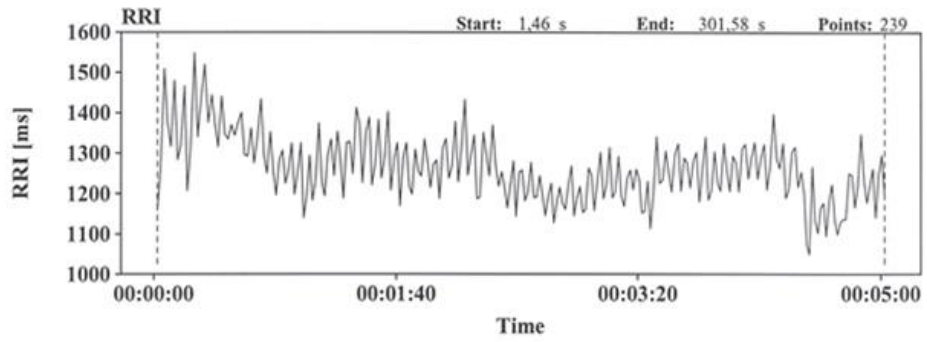
- Heart rate (HR) and heart rate variability (HRV) typically have an inverse relationship. When heart rate drops, HRV increases, and vice versa.
- HRV increases during rest and relaxation and decreases when there is some kind of load, for example stress or physical activity.



FIRSTBEAT

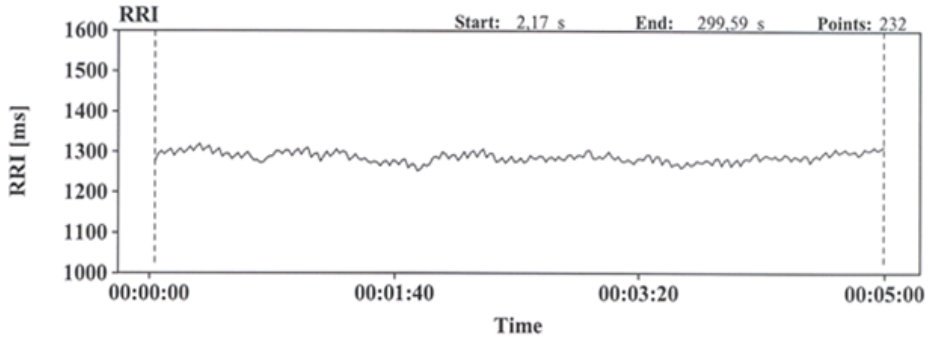
HEART RATE ALONE DOES NOT REVEAL OVERLOAD

HRV is weakened by various stressors, such as stress, sleep problems, illnesses, medications, alcohol, poor physical condition, overweight and **overtraining**.



Before overtraining:

- Avg. HR 48
- Avg. HRV 82 ms
- HRV is great → indicates good recovery and health



2 months later:

- Avg. HR 47 bpm
- Avg. HRV 12 ms
- HRV drops dramatically: obvious signs of overload / no signs of recovery

FIRSTBEAT

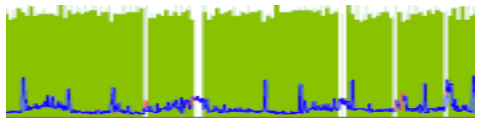
AUTONOMIC NERVOUS SYSTEM REGULATES HEART RATE

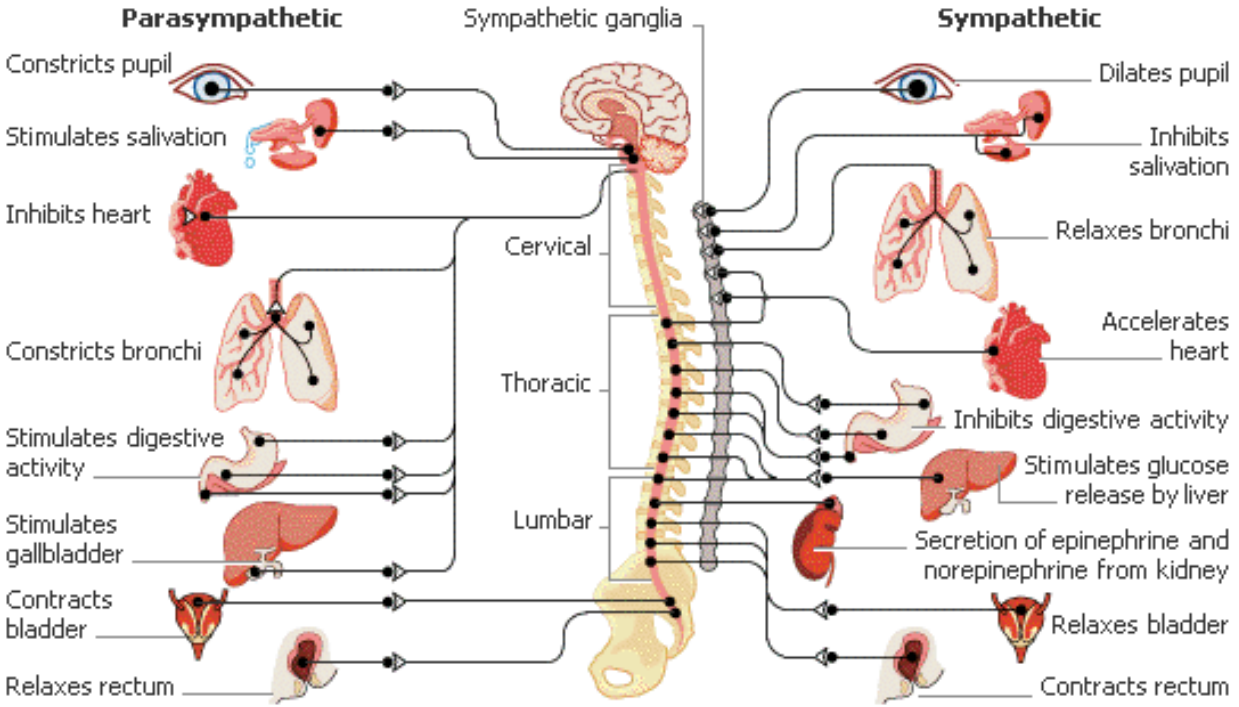
Parasympathetic nervous system

Calms down bodily functions

- Heart rate ↓
- Heart rate variability ↑

-> Recovery



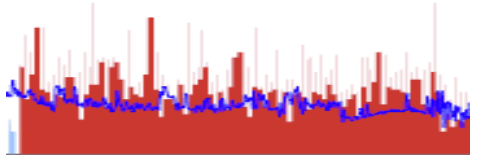


Sympathetic nervous system

Speeds up bodily functions

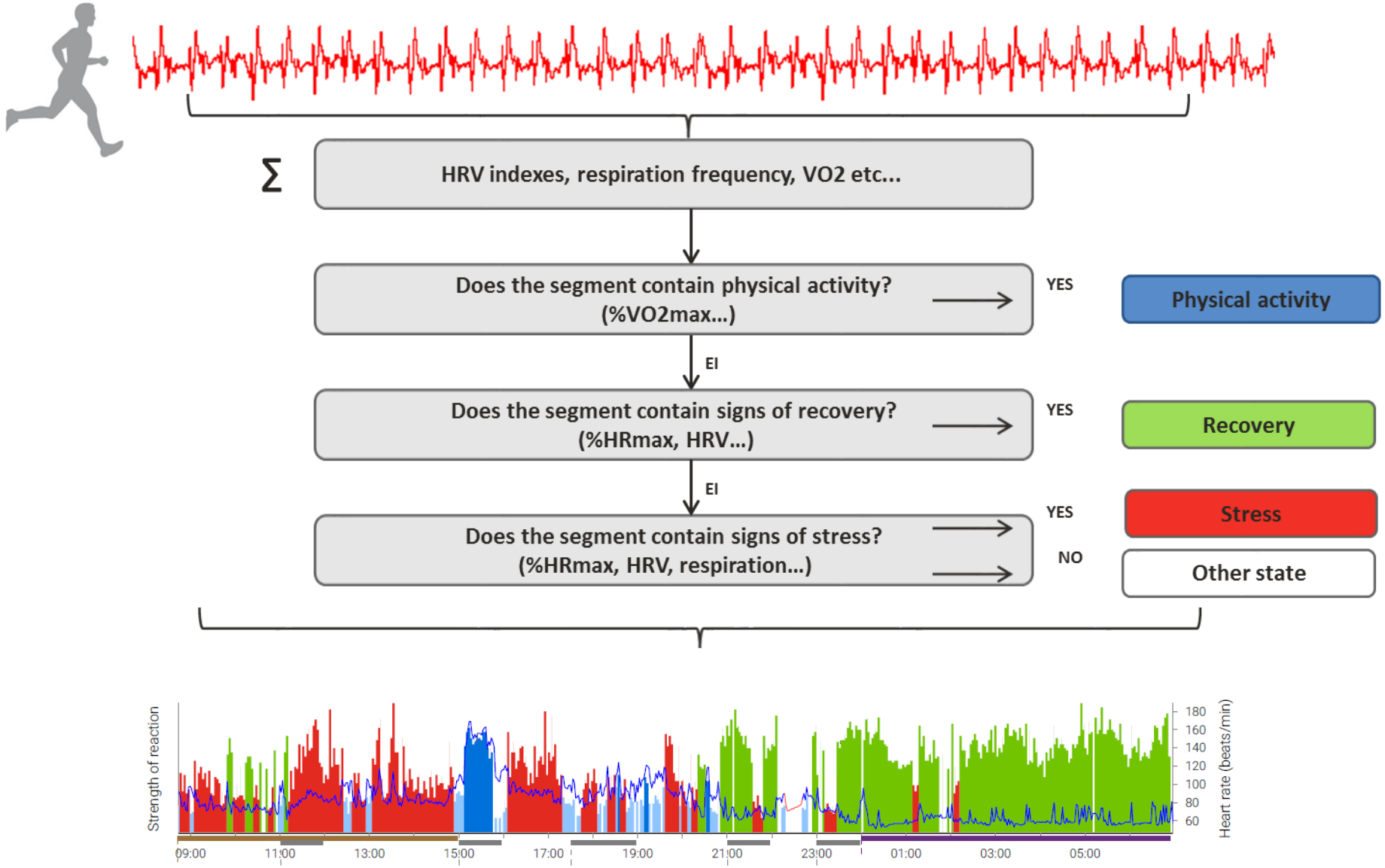
- Heart rate ↑
- Heart rate variability ↓

-> Stress reactions



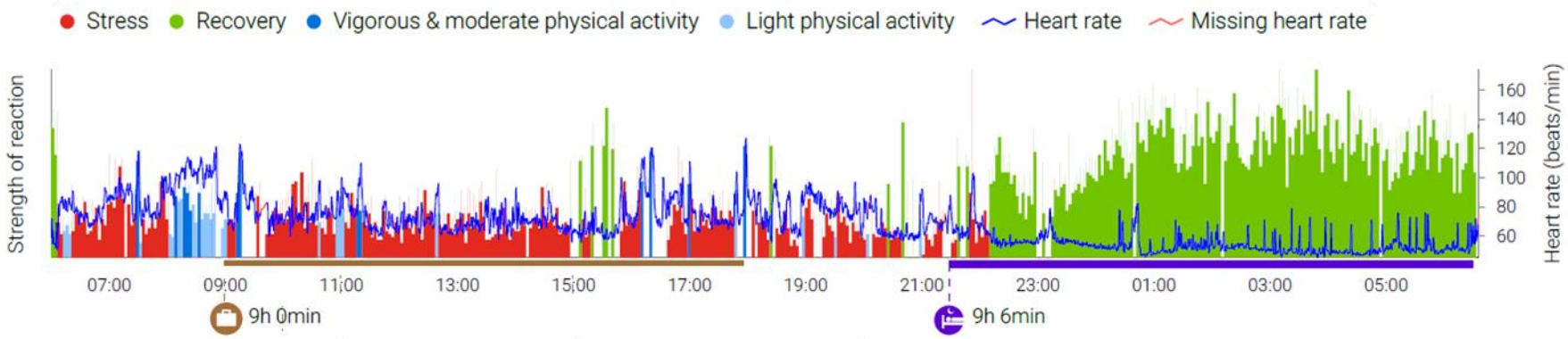
FIRSTBEAT

DIGITAL MODEL OF BODY'S REACTIONS



FIRSTBEAT

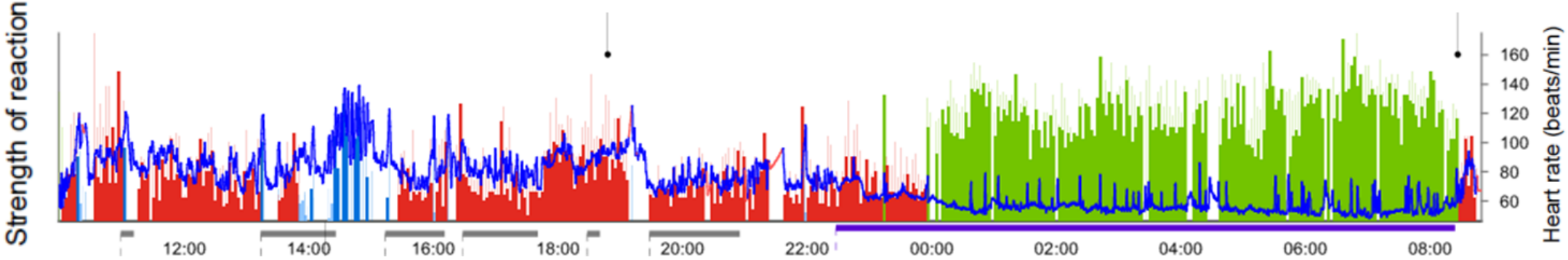
DEFINITION OF PHYSIOLOGICAL STATES



Stress reaction	Recovery	Physical activity	Other state
Increased activation level in the body. The reaction can be positive or negative. Sympathetic dominance. • Heart rate ↑ • Respiration frequency ↑ • Heart rate variability ↓ • Oxygen uptake <20% of maximal capacity (VO2max)	Calming down of the body. Parasympathetic dominance. • Heart rate ↓ • Respiration frequency ↓ • Heart rate variability ↑ • Oxygen uptake <20% of maximal capacity (VO2max)	Physical load during which energy expenditure is significantly increased from the resting level (over 2 MET). • Vigorous physical activity: an intensity of over 60% • Moderate physical activity: an intensity between 40-60% • Light physical activity: an intensity between 20-40% of maximal performance	Other state (white) is typically: • Recovery from exercise • Low-level physical activity • Short awakenings during sleep • Missing data periods (for example during a shower)

FIRSTBEAT

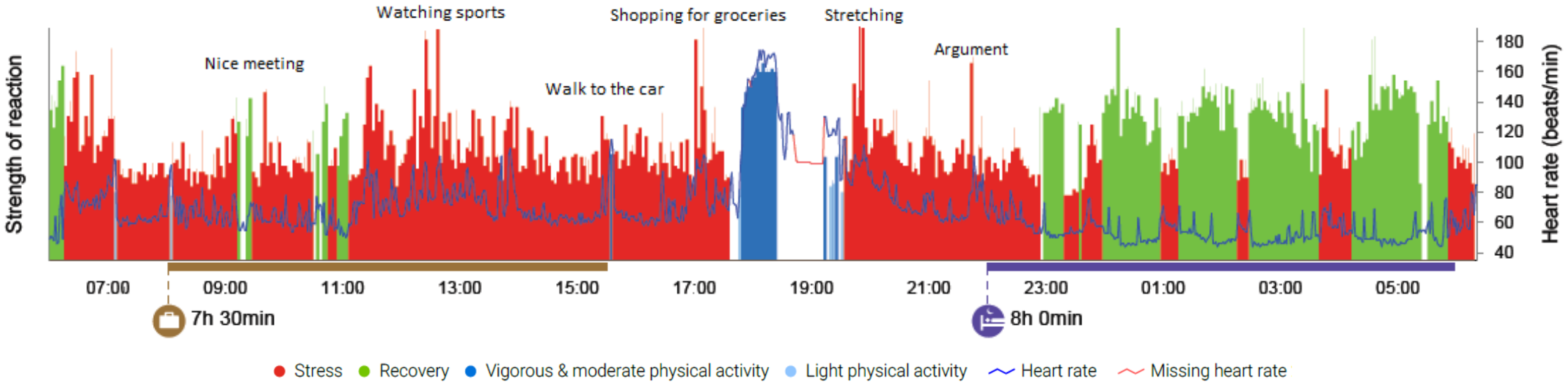
STRESS AND RECOVERY IN FIRSTBEAT REPORTS



- The result reflects changes that take place in the autonomic nervous system.
- When the activation level is elevated, the activity of the sympathetic nervous system increases → a stress reaction.
- Time periods when the parasympathetic nervous system is dominant are identified as recovery.
- There is no right or wrong way to react to a situation! It's more essential to determine if the reaction is meaningful (e.g. whether recovery state is seen during a relaxation activity or sleep).

FIRSTBEAT

FIRSTBEAT ANALYSIS DOES NOT DIFFERENTIATE BETWEEN POSITIVE AND NEGATIVE STRESS



FIRSTBEAT

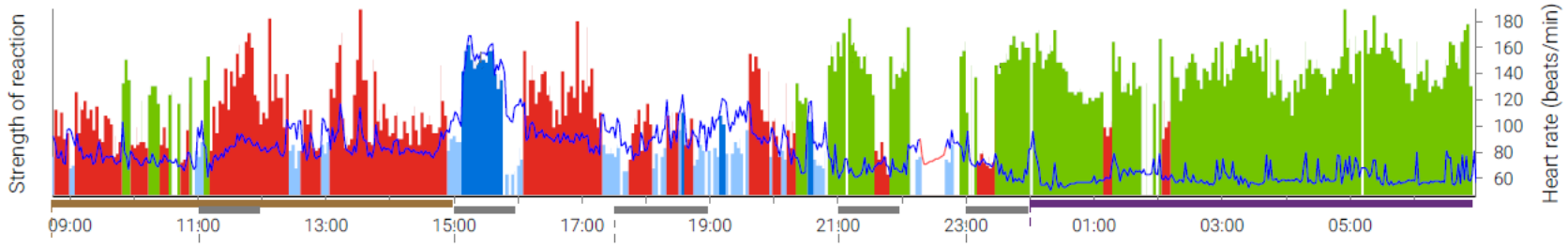
CAUSES OF STRESS / STRESS REACTIONS

Physical stressors (internal)
- Fatigue
- Overload / overtraining
- Burnout
- Pain
- Acute infections
- Chronic illnessess
- Dehydration
- Digestion
- Pregnancy

Physical stressors (external)
- Heavy exercise training
- Lack of sleep
- Physical workload
- Stimulants e.g. coffee
- Medications
- Alcohol or other substances, hangover
- Sauna
- Temperature, noise, altitude
- Jetlag

Psychological stressors
- Anxiety, depression, sorrow
- Negative emotions
- Traumatic events
- Work stress
- Psychological conditions
- Fear, tension
- Relationship problems
- Excitement e.g. falling in love

Social stressors
- Pressures
- Lack of social support
- Presentation / speech
- Fear of social situations



FIRSTBEAT

REVIEW

- What is Lifestyle Assessment based on (what does the BG2 measure)?
- What information does Lifestyle Assessment tell about your client?
- What are the 5 physiological values that the analysis utilizes to differentiate between stress, recovery and exercise?

FIRSTBEAT

CONDUCTING THE LIFESTYLE ASSESSMENT

WHO IS LIFESTYLE ASSESSMENT SUITABLE FOR?

- **Key personnel** and executive teams
- **Wellness programs** for entire personnel
- Annual **health checks**, for example
  - People who travel a lot
  - Shift workers
- **As part of targeted wellness initiatives**
  - Stress management
  - Weight loss
  - Exercise

LIFESTYLE ASSESSMENT STEPS

1

MEASURE

Physiological snapshot of everyday life (3 days and nights)

93% of users:
"The measurement was easy to conduct"

2

PERSONAL REPORT

+ Anonymous group report for employer

3

EXPERT FEEDBACK

Personal advise for improving well-being and performance

4

FOLLOW-UP OF CHANGE

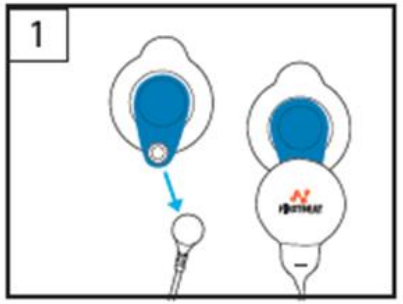
82% of users felt that they were able to improve stress management, exercise and/or quality of sleep.

FIRSTBEAT

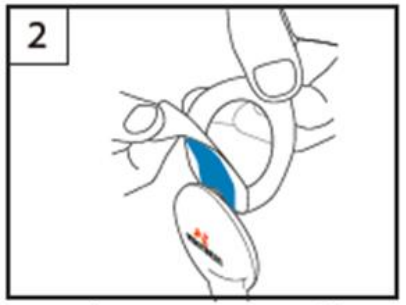
ACCURATE MEASUREMENT, EASY TO CONDUCT

Firstbeat Bodyguard 2:

- Starts automatically when attached
- Accurate heartbeat collection 1ms (1000 Hz)
- Storage capacity 20 days
- Rechargeable battery, duration about 6 days
- Data upload and battery charging via USB port



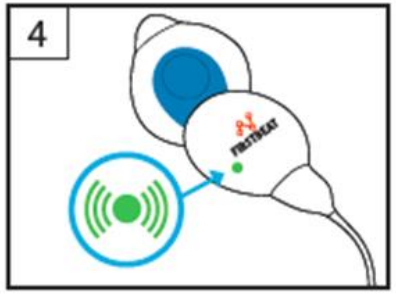
Attach the electrodes to the snaps in the Bodyguard 2 device.



Remove the protective covering of the electrodes. Ensure that your skin is clean and dry before you attach the electrode.

It is not allowed to use the device in the water.
Detach the device during shower, sauna and swimming.
The measurement continues automatically when you re-attach it.

Attach the device to the **right** side of the body below the collar bone. The other end is attached to the **left** side on the rib cage.



The measurement starts automatically when the device is attached. Make sure the green light is blinking. Note! The light is easiest to see in the dark.

FIRSTBEAT

PLEASE NOTE THIS ABOUT ILLNESSES AND OTHER CONDITIONS

Lifestyle Assessment results can be unreliable and we do not recommend the measurement if the client has:

- A pace maker
- Heart transplant or a difficult heart condition
- Chronic atrial fibrillation / atrial flutter
- Uncontrolled thyroid dysfunction
- High fever (it's better to postpone the measurement if you have fever)

If you have one of the following conditions, you can make the measurement, but please note that the results **can** be difficult to interpret or unreliable:

- Bundle branch block
- Coronary heart disease with angioplasty or bypass surgery
- Chronic neurologic disease (MS, Alzheimer, Parkinson)
- Diagnosed severe depression or exhaustion (medicated)
- Pregnancy

NOTE! Firstbeat Lifestyle Assessment is used to promote personal well-being, and is not designed for diagnosing illnesses.

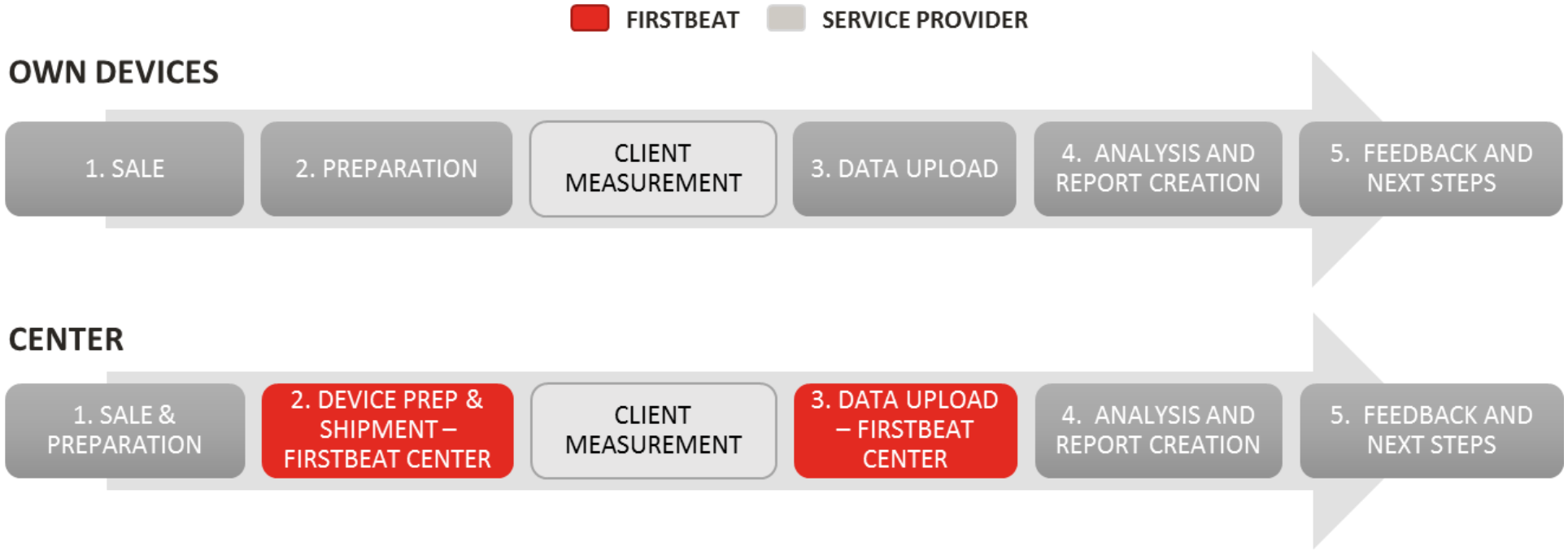
FIRSTBEAT

FEEDBACK SESSION – INDIVIDUAL OR GROUP?

- **Goal:**
  - Come up with key conclusions about the result (stress, recovery, physical activity)
  - Set goals and come up with action points / recommendations
- **Time need:**
  - Individual feedback 30-60 min
  - Group feedback session app. 60-75 min
- **Example of the feedback process:**
  - Establish the goal of the measurement, client's starting point and expectations.
  - Discuss the reports & result, reflecting on the client's own feelings and life situation (e.g. illnesses, medications and current "stress status").
  - Come up with key conclusions
  - Set goals that support well-being and plan concrete action steps.
  - Agree on possible next meeting / follow-up.

FIRSTBEAT

LIFESTYLE ASSESSMENTMENT MODELS



FIRSTBEAT

IMPORTANT ABOUT DATA SECURITY

- Each Firstbeat Specialist is only allowed to open **his/her own measurements or the profiles / measurements of his/her own clients**.

- Each action that a Specialist does in the Firstbeat Lifestyle Assessment program (such as opening a measurement or a report) leaves a track in the program – and the Admin user of the account can check this, if needed.

CHECKLIST FOR THE SPECIALIST – OWN DEVICES

- Decide the measurement schedule together with the client
    - Record the recommended measurement dates in the Info letter
    - see example Info letter in Learning Center
- Prepare the assessment
    - See *How to conduct Firstbeat Lifestyle Assessment to a client*
- Provide each person who is doing the measurement
    - Bodyguard 2 measurement device
    - Electrodes (at least 8 for a 3-day measurement)
    - Info letter
- Once the devices are returned, analyze the data and create reports
    - More info: Learning Center – Lifestyle assessment manuals and videos
- Provide feedback to the client as agreed.

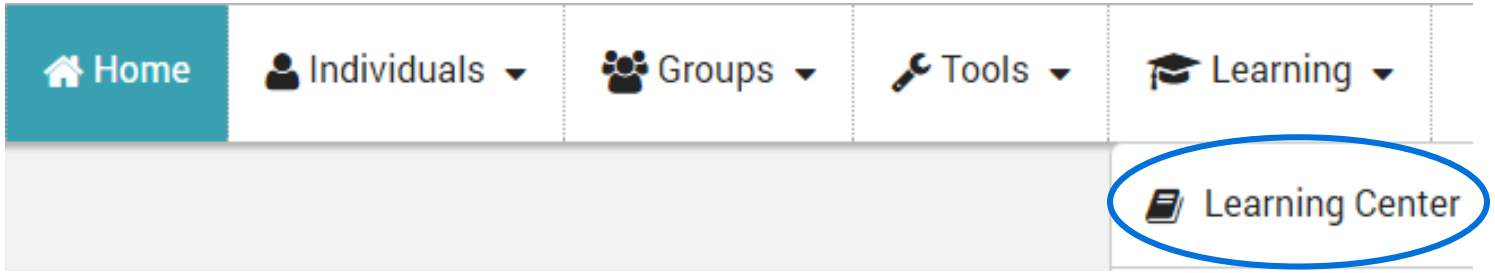
FIRSTBEAT

GUIDELINES FOR THE SELF-STUDY PERIOD

TO-DO BEFORE THE NEXT TRAINING SESSION

1. Conduct a Lifestyle Assessment (3-day measurement) and provide feedback to 2 people (family / friend / colleague).

Instructions: Learning Center – Materials for download – Materials for your own learning – Lifestyle Assessment to a client *(- Center, if you are using the Center model)*

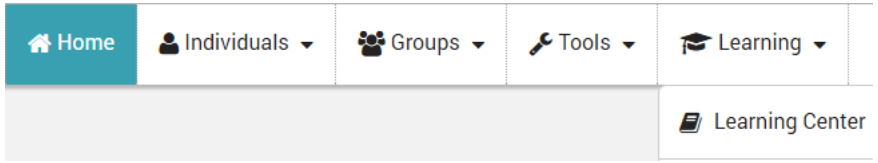


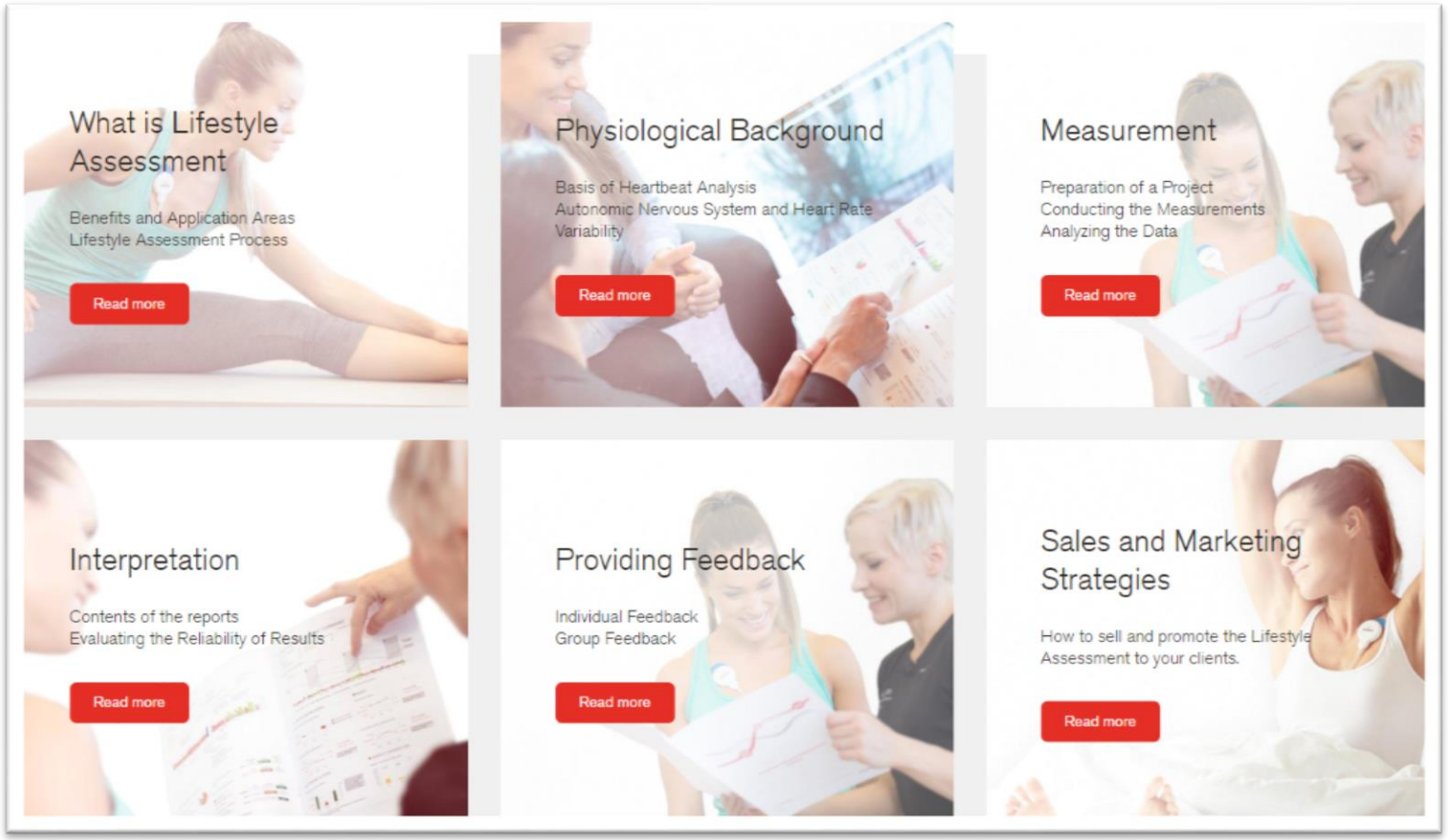
2. Please listen to 1-2 webinar podcasts that you feel will best support your learning.

FIRSTBEAT

DEEPEN YOUR KNOWHOW IN THE LEARNING CENTER

Lifestyle Assessment Home page → Learning / Learning Center

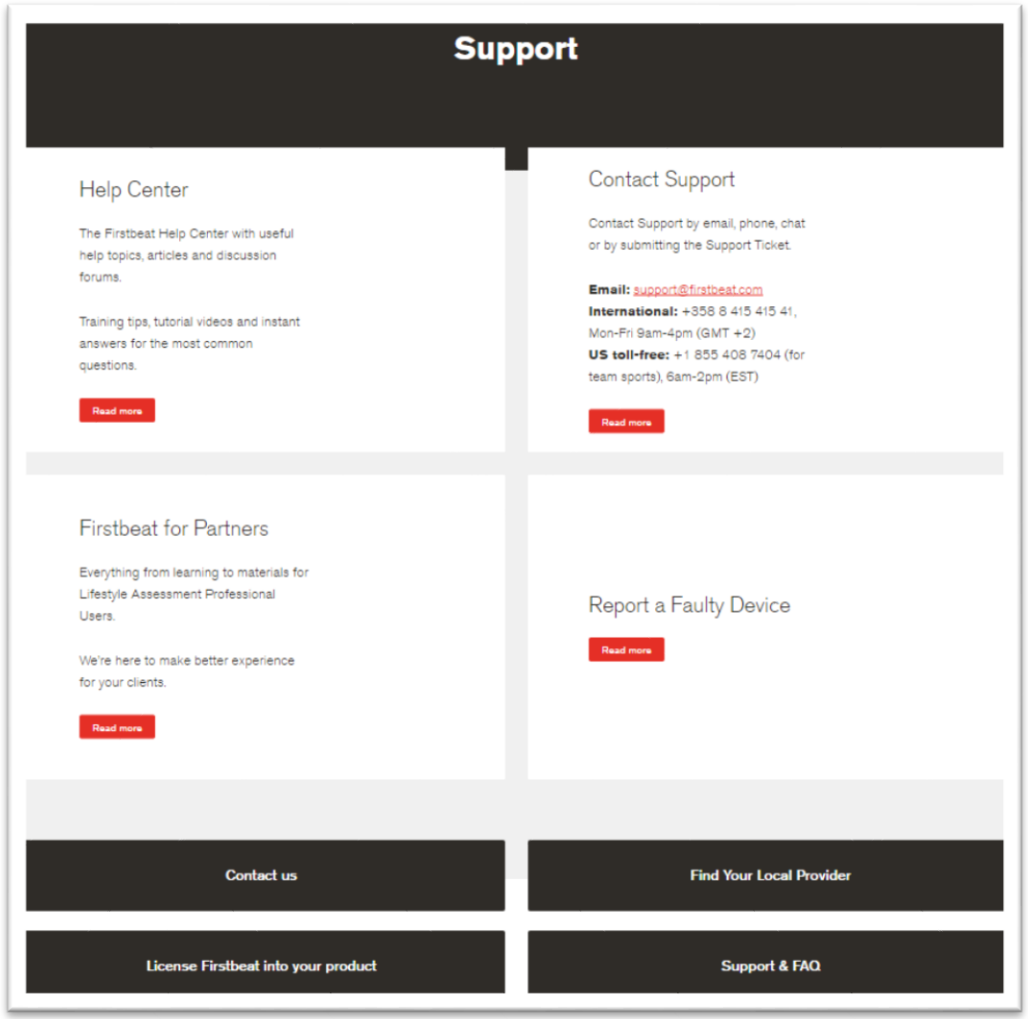




FIRSTBEAT

FIRSTBEAT SUPPORT ANSWERS YOUR QUESTIONS

https://www.firstbeat.com/en/support/ → **Firstbeat for Partners**



FIRSTBEAT

SPECIALIST: MATERIALS TO HAVE

- **To support your own learning:**
  - Guides: Professional user's own assessment, Lifestyle Assessment to a client
  - Guide: Lifestyle Assessment Key Conclusions
  - Guide: Providing feedback – individual session
  - Additional info from Specialist manuals
- **Conducting an assessment to your clients:**
  - Group projects: Info meeting presentation
  - Group projects: Group feedback slide presentation
- **Marketing:**
  - Firstbeat Marketing and Salesslide presentations
  - Firstbeat logo, product images and other materials: https://partners.firstbeat.com/en/extra-materials/marketing-materials/
  - https://partners.firstbeat.com/app/uploads/2015/09/Firstbeat-Partner-Brand-Guidelines-20161.pdf

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