SMART WATCH

pacing

BY
Laure Wiggers

SMARTWATCH *PACING*

Learn to manage your chronic illness with a (Garmin) smartwatch

INTRODUCTION

This guide is a collection of knowledge from people with a chronic illness on how to manage your chronic illness using data from a (Garmin) smartwatch. Among other things, it helps you better distribute your energy throughout the day. This is called pacing. You'll need to invest time, effort, and energy into learning what data is normal for you and what it means for you when it deviates. This guide is designed to make figuring that out a little easier. This process can be very frustrating or even stressful. If you experience this, put your watch aside for a while or only look at the previous day's results. This document was translated from Dutch by Laure Wiggers

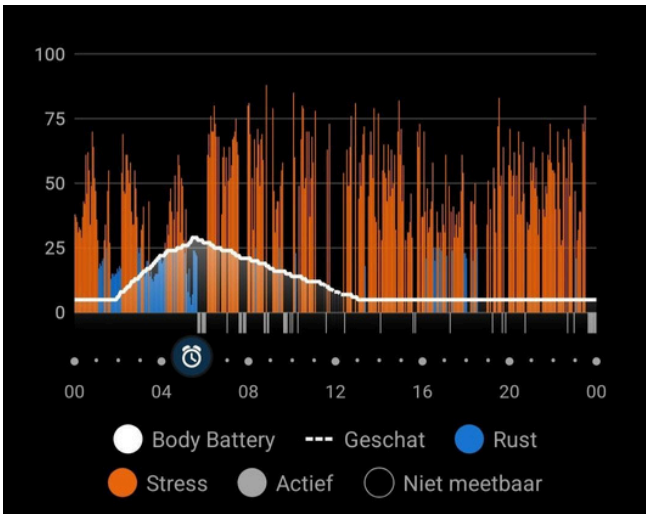
RELIABILITY

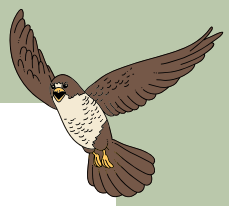
The information in this document comes from the experience of Laure Wiggers, from the two Facebook groups "Beat longcovid with a smartwatch!", "Bodybattery ervaring & tips," and from the people with ME and long covid that she speaks with on Instagram when sharing her Garmin results and asking them questions.

The shared results are from her own watch and of others with ME and/or long covid, who shared their results specifically for this document and the accompanying youtube video. Where sources are used, you'll find a link in the text so you can easily find the source.

DOWNLOADS

This document and more can be downloaded from the website www.levenmetmecvsenpots.wixsite.com/blog/ and was created by Laure Wiggers. She was diagnosed with mild ME/CFS and POTS in 2009. This progressed to moderate ME/CFS and POTS in 2022, after which she finally received her diagnosis.





Inhoud

FOR THE BEST RESULTS

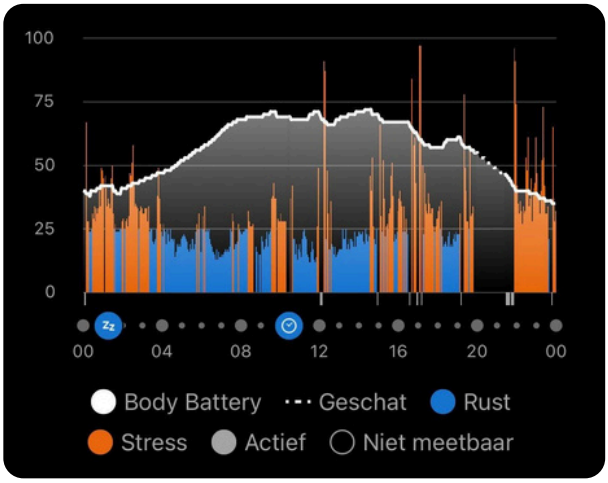
Even though measurements from a watch aren't as reliable as those from medical devices, there are things you can do to get the most accurate readings and maximize your results.

Garmin watches work best when worn day and night. If you don't wear them for a while, your missing data is estimated based on your data before you took off your watch and/or what is normal for you on this time of the day. Garmin displays this estimate using a dotted line in your body battery.
Your Garmin watch adapts to you by estimating your normal levels. This happens for example in your nighttime HRV measurements. These adjustments and estimations take time. Especially if you start wearing your watch during a week when you don't feel well. That will make your watch need extra time to learn what's normal for you. Others often say it takes at least three weeks for your Garmin data to be accurate. Experiences with that vary.
A new watch with a different sensor may show more or less stress than your previous watch.

Garmin's advice
Garmin's texts or advice about your day or sleep are based on healthy people. For them, these aren't particularly reliable. For people with chronic illnesses, they're even less reliable, if at all.

Gaps in your stress graph without a gray box below them often indicate that your data couldn't be measured.

- Try cleaning your sensor. It's a good idea to do this once or twice a day to prevent skin irritation.
- A watch that fits too tightly can also prevent your data from being measured.
- Similarly, lying on your watch can prevent your watch from being able to get measurements.
- If (Garmin thinks) you were doing an activity, you won't see stress in your graph during the recovery from that activity.
- It's also possible that your heart rate was too high. This is more common if you have POTS, but also if you've set your maximum heart rate very low. Read more about this in the chapter on heart rate zones.



Blind faith
Of course, you can't blindly trust your Garmin data. For example, a 100% body battery doesn't automatically mean you have 100% energy. You still need to assess your own well-being and compare it with your smartwatch data. This way, you'll recognize patterns that will help you understand yourself better. This way, you don't need to wear a watch forever. That's good to know for people who get stressed by all the information.

If one of your data points deviates from what's normal for you, it doesn't tell you everything. That's why it's helpful to have multiple data points to look at. You'll naturally (or with the help of the pacing charts in appendix 4) learn to assess which combinations of deviations are truly meaningful and which data points don't tell you much on their own.

"Listen to your body"
This is advice you often hear, but it's not that simple. Especially when you feel energetic even though you actually have none, Or when you feel well for 24–48 hours before PEM (Post-Exertional Malaise, worsening symptoms after too much exertion) kicks in. If you suspect this kind of "false energy," you can look at both your data and the signs outside your watch: your circumstances and symptoms. This way, people can often learn to understand themselves again, allowing them to regain the ability to listen to their body and their mind.

Comparing
This document contains many examples from others. Be careful not to compare your own graphs too much with theirs. The main goal is to give you an idea of what changes you might see and what they might mean. You first want to learn what's normal for you, what trends recur on good and bad days, what things affect your data, and how that, in turn, affects how you feel. Then you can explore which adjustments will improve your stress balance, help you run out of energy more slowly, and keep your energy more stable. There are many things that can influence this, so I hope this guide will give you a good foundation to start learning about yourself.

HEART RATE

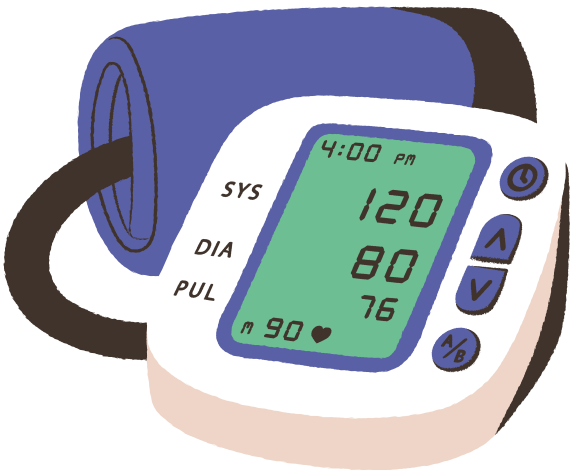
After 10 minutes of rest, your heart rate usually returns to your resting heart rate. A good way to get a sense of what a normal resting heart rate is for you is to write down your heart rate at each resting moment. Once you know your normal resting heart rate, you can notice when it's higher or lower than usual throughout the day.

A higher resting heart rate
This could mean the activity you did just before you rested was too much. Sometimes your heart rate drops to your correct resting heart rate after a few minutes, but if you've pushed yourself much too far, it can take hours. I'm already unhappy with a resting heart rate that's 5–10 beats higher. I have really thoroughly overdone it when my resting heart rate is a 100 bpm instead of 60 for hours.

An elevated resting heart rate, especially if you have POTS, can also be caused by too little movement. You usually recognize this when you've been lying down for a while and your resting heart rate has slowly increased during that time. To test your theory, you can gently move around, for example, stretching your arms and legs a few times. If you then lie down. If your resting heart rate drops again, you had needed more blood flow.

A low resting heart rate
A lower resting heart rate can also be a signal from your body that something is wrong. For me, this often happens immediately after too much movement. If you haven't moved too much or too little, but your resting heart rate is higher or lower than normal, you can look for other causes, such as being too hot, not eating enough, eating too much, not having enough blood volume, or basically anything else you can think of that stresses a body.

Activity Scale
The activity scale is an occupational therapy tool where you record what you do and how many energy points each activity costs. This allows you to see how much energy you expend during a day. You can also record your heart rate alongside it. This makes it easier to get an idea of your heart rate throughout the day and how activities affect it. You can find these types of charts in appendix 4.



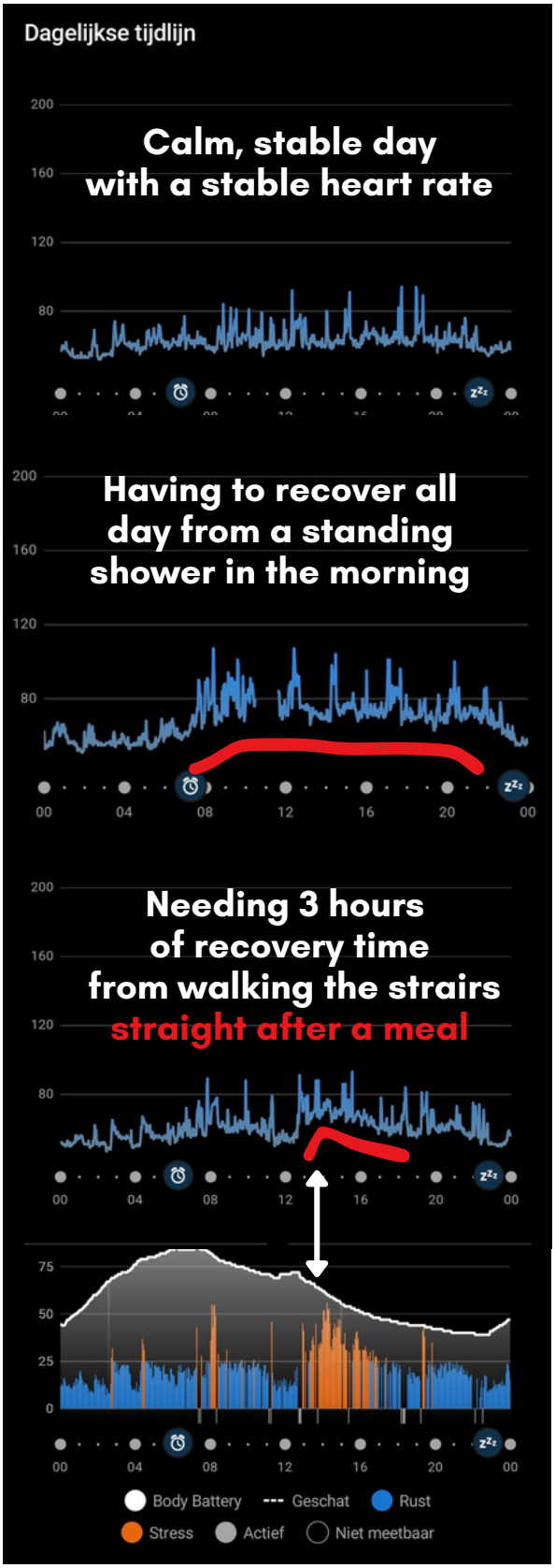
FLOW CHART

I made this one when I was starting to understand my POTS. It hung in the toilet so I could memorize the reasons why I often experienced symptoms, but also as a reminder to pay close attention to these things throughout the day. There are more reasons than these for your heart rate to be higher or lower, but this flowchart will get you pretty far.

POTS heart rate increase
Observing how quickly and how high your heart rate goes when you stand up can also give you a good idea of how your autonomic nervous system is doing. Don't do this repeatedly on purpose if you have POTS. This will irritate your autonomic nervous system, causing your heart rate to increase more and more, ultimately triggering more POTS symptoms.

HEART RATE GRAPH

The Garmin app provides a graph of your heart rate throughout the day. You can look at the lower end of all the peaks. This will tell you whether your heart rate is returning to normal after activity.



You can see in the last two heart rate graphs that the lower peaks of the heart rate are slowly rising. If you encounter this in your measurements, take a break until your resting heart rate has dropped significantly. This will prevent what you see in the second image. There, the activity of showering standing, combined with getting up and eating breakfast, was so overwhelming that the resting heart rate remained too high all day. In the last image, you can see that mealtimes are stressful. A full stomach also requires energy, so climbing the stairs immediately afterward was not appreciated. The heart rate and stress remained high for hours despite lying down and trying to relax. After two hours of this, the person felt very grumpy and exhausted.

Heart Rate Peaks

The Garmin heart rate graph shows the average over two minutes. That's why you **won't** find high peaks in your Garmin heart rate overview.
If you do want to see them, you can download a watch app for that. Many apps show you the highest and lowest heart rates of the last few hours.

The heart rate you see on your watch at that moment should match your actual heart rate. Not all watches are equally good at this, but Garmin does it very well, and Apple does it best.[1]

1. https://pmc.ncbi.nlm.nih.gov/articles/PMC9952291/

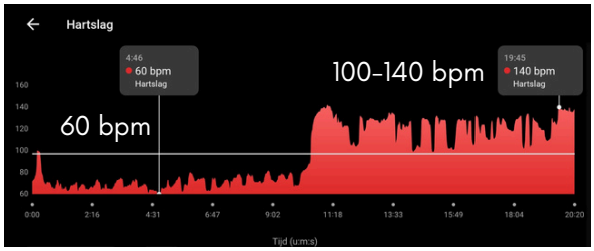
Medications

The annual heart rate chart can clearly show the effect of heart rate-lowering medication. This screenshot shows the decrease after starting propranolol. Medications can significantly affect your heart rate, as well as your Garmin stress and HRV measurements. Therefore, you may need to relearn which measurements are normal for you after starting your medication.

Heart Rate Rise Test

If you want to test for a possible POTS diagnosis, you measure your resting heart rate and see how many beats it rises when you stand. Someone with POTS can sometimes **NOT** pass such a test due to an elevated resting heart rate after too much movement. It's important to know your own resting heart rate and ensure you reach it during the test. Watches also sometimes don't accurately record your heart rate. The ability of a brand to track your heart rate varies. The quality also varies between devices from the same brand. Therefore, perform a POTS test like the NASA lean test with a reliable blood pressure monitor.

Activity meditation enabled during Nasa-lean test



Nighttime heart rate

At the bottom of your nighttime sleep chart, you'll find your lowest stable resting heart rate during the night. If it's higher or lower than normal, it could be a sign that you've done too much or are experiencing a PEM.

HEART RATE PACING

Above a certain heart rate, your body changes its energy production method. This method doesn't work well if you have ME/CFS or long covid. Staying below that heart rate is called heart rate pacing. The point at which your body starts producing energy differently is called the **anaerobic threshold**. You can measure this with a sports test or estimate it using the following formula.

220 - your age = ... x 0.6

(or x 0.5 if you want to try lower)

Try it out. If you don't find it benefits you enough, you can see if an even lower heart rate works better for you.

You might not be able to stay below your calculated heart rate. You can choose a more realistic heart rate to stay below. If it works, it works. Many people stay below a heart rate of 100-110. A much stricter way of pacing your heart rate is to limit your heart rate to no more than 15–20 points above your resting heart rate. This is impossible for many people with POTS. For them, even turning over in bed will sometimes cause higher peak heart rates than would be allowed with this method. Heart-rate-lowering medication helps a lot of people with POTS.

When you're doing an activity, it's helpful to check your watch occasionally to ensure your heart rate stays low enough. You can use pacing watch faces or activate an activity app with the pacing data field, which will trigger an alarm above your target heart rate. You can also activate an app that triggers an alarm above your target heart rate without registering it as an activity. See the list of apps in appendix 1. Also, check your heart rate when you rest to make sure it is coming down low and fast enough.

Garmin heart rate alarm

The Garmin lets you set a heart rate alarm. This alarm will only go off if you've been inactive for more than 10 minutes, where after you exceed your chosen heart rate. When the alarm goes off, you'll see it on your heart rate graph.

Keeping your heart rate low
When pacing your heart rate during activities, you want to be careful not to exceed your anaerobic threshold heart rate. When you recognize that it's time to lower your heart rate, you can do several things:

- Move more slowly
- Stay still for a bit
- Sit or lie down
- Relax unnecessarily tensed muscles
- Breathing exercises/calm abdominal breathing

Your heart rate often stays lower if you find a way to do your activities while lying down or sitting. For example, you can cook on a saddle stool or workingchair, shower on a shower stool, hang up laundry while sitting, and go outside in a (power-assisted) wheelchair. An occupational therapist can help you with these kinds of adjustments. It also helps to break activities into smaller chunks by limiting yourself with a timer and spreading your activity throughout the day.

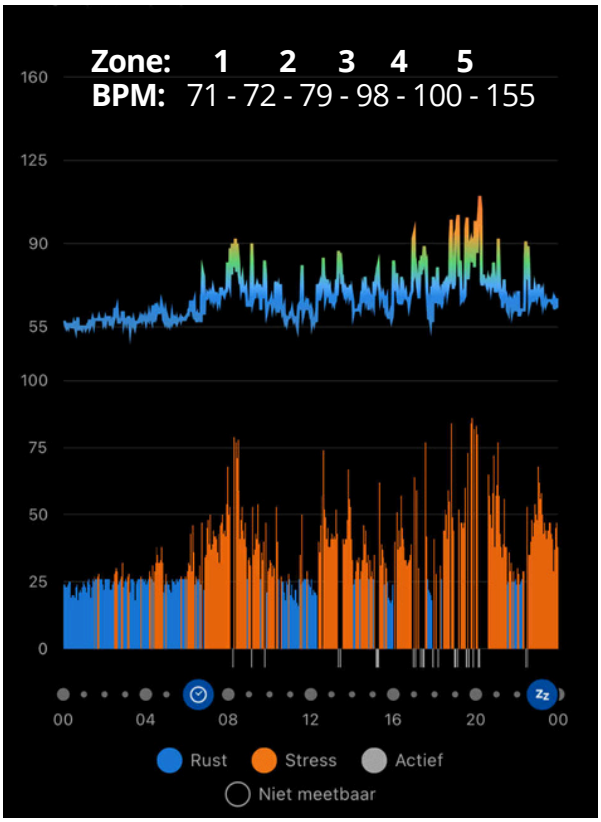
Don't panic if you do exceed your anaerobic threshold. You'll only start to feel (more) tired after about 30 seconds. You would of course prefer to avoid fatigue, so it is better to go over it as briefly as possible, but it's really nothing to stress about.

Measuring error
You may find yourself waiting for your heart rate to go down, but it doesn't seem to happen, even though it does feel calm. You can check your heart rate with your fingers on your neck or wrist. The song "Staying Alive" is 104 beats per minute (CPR rate). For me, that's roughly the heart rate I want to stay below. This allows me to accurately assess whether my heart rate has lowered. Fortunately, it doesn't happen often, but if people are waiting for me, it's nice to be able to check if my watch is having trouble noticing that my heart rate has already dropped.

HEART RATE ZONES

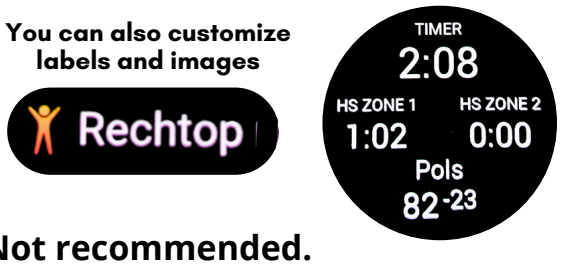
I found it difficult to find reliable information about the effects of adjusting your maximum heart rate and heart rate zones. Therefore, this information is based solely on what others in PAIS/ME/long covid community have told me.

Adjusted heart rate graph
Some people find it helpful to adjust their maximum heart rate. A graph from 40 to 160 shows the differences in your heart rate better than a graph from 40 to 200. Your heart rate also reaches your heart rate zones more quickly. Your heart rate will then be colored according to the zone it falls into on the heart rate graph.



In this heart rate graph with accompanying stress graph, the maximum heart rate is 155. This is a not so good for her.

Heart Rate Zone Pacing
Some people set heart rate zones to specific values to help them pace their heart rate. They choose a maximum heart rate they absolutely never want to exceed. They then use the zones during an activity as indicators of how far they are from or exceed their anaerobic threshold (AT).
For this method, you can set the activity fields to show how much time you spent in certain zones. You can download more data field options in the connect IQ store app.



Not recommended.
Setting your maximum heart rate too low, like on your AT, may have a significant impact on your stress measurements and body battery. Your heart rate will quickly reach high zones.

This can quickly deplete your body battery and lead to high stress scores. Garmin can also consider suddenly reaching higher heart rate zones as an activity or a measurement error. In both cases, you'll see gaps in your body battery and stress graphs. You may see a lot of gaps and therefor see much less of your data. If you still want to pace yourself by heart rate zones, choose a maximum heart rate around 150 and use the one or two highest zones as zones you (preferably) never reach.

How to set your heart rate zones?

Garmin devices →
User profile → Heart rate

Heart rate zones indicate how hard you are training. This helps athletes determine whether their efforts align with their goals. Garmin's zone table helps you determine when you're in which zone. Everyone has to figure this out for themselves. If you're chronically ill and can't exercise, it's more difficult to know how to set your zones. I've adapted the zone table to what I think works best for us with a chronic illness. Use your heart rates from days when you're relatively stable and doing quite well.

My settings

Maximum heart rate
190 bpm Officially 220 - your age

Zone 1 37-45% **70-85 bpm**
Starting at my lowest standing heart rate (see next page). 85 is arbitrary.

Zone 2 45-55% **85-104 bpm**
This zone ends at my anaerobic threshold

Zone 3 55-80% **104-150 bpm**
I never get that high, so the rest are the default settings.

Zone 4 80-90% **150-171 bpm**

Zone 5 90-100% **171-190 bpm**

Zone	Standard settings % of max heart rate	Perceived exertion	Possible activities
1	50-60%	Relaxed, almost effortless activity	Hobbies
2	60-70%	Light activity. Heavier breathing. After this, you'll likely exceed your **anaerobic threshold**	Housework
3	70-80%	Moderate activity. More difficult to maintain a conversation	cycling, walking fast
4	80-90%	Sports, fast pace. Exhausting. Rapid breathing.	Exercising hard
5	90-100%	Maximum effort. Impossible to maintain for long. Rapid breathing.	Sprinting

Original chart: https://www.garmin.com/nl-BE/blog/hartslagzones/

INTENSIVE MINUTES
GARMIN VENU 3S

This doesn't seem to have any effect on bodybattery and stress, but I'm not sure.

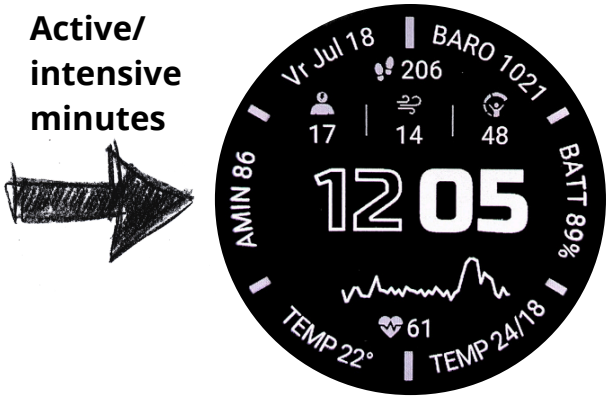
Some watch faces tell you how many intensive, or active, minutes you've been moving. I use this function to track how many minutes my heart rate has been above 70. During good periods, I can see how long I've been standing or moving in a day. On PEM days, when I'm just lying down, it tells me how upset my body is. In flare-ups my heart rate is often too high, even when laying down. You can also find the data in the Garmin "Intensive training minutes" graph, where you can even see an entire year's overview.

Here's how to set it up:

Step 1 On your Garmin with this function, press and hold the bottom button. Chose: Settings – Activity Tracking – Intensity Minutes.
Set the moderate zone to zone 1. These minutes count once.
Intensity minutes are counted twice, so set this to zone 5 as you hopefully never reach that level.

Step 2 Then go to Settings – User Profile – Heart Rate.
Set the percentage of zone 1 to the heart rate at which you want the minutes above it to be counted. Your maximum heart rate should be 220 minus your age, and then you need may need to calculate what percentage of that is the heart rate you want to stay below.

Active/ intensive minutes



Track only activities as IM

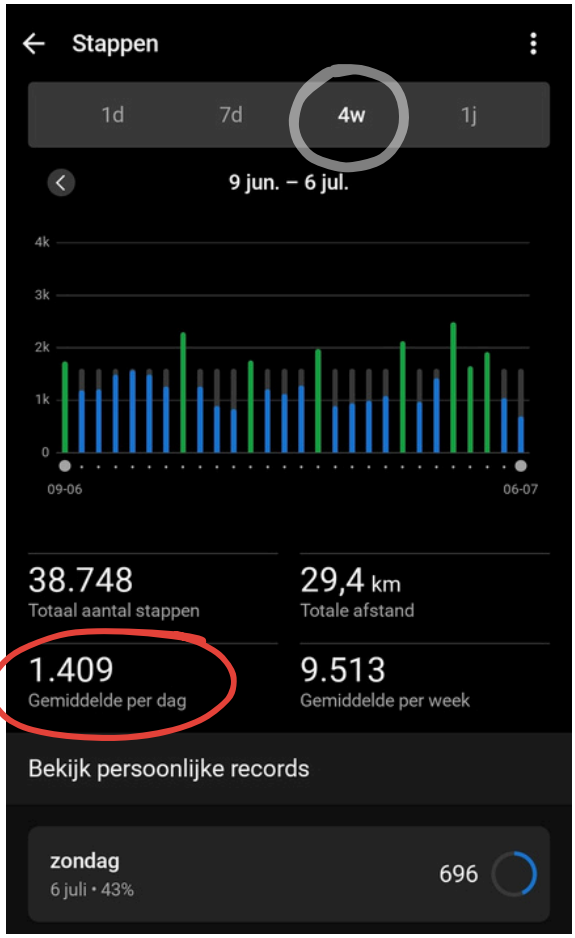
The Venu 3s offers the option to set the zones for specifically running and cycling differently from your normal zones in the "Heart Rate" setting. You could start your main heart rate setting zone 1 at 100-110 bpm (or your anaerobic threshold) if you can't exceed it. Then, set your running/cycling zone 1 to your resting heart rate. Every time you start the running activity, that time is counted as your intensive/active minutes. If your watch face shows intensive minutes, you can track how long you've been active that day. Note that your stress during activities is not displayed in the stress graph.

The pacing data field app allows you to set your watch to vibrate when your heart rate exceeds your set heart rate during activities. This can be very useful for heart rate pacing. You can also set a heart rate alarm in an activities settings.

STEPS

If you look closely at your step count over several weeks, you might be able to see how many steps always go well and how many steps triggers symptoms or PEM. Keep these numbers in mind during the day.
I can do 1600 steps daily without consequences from my illness. At 3000 steps, I will definitely get PEM.

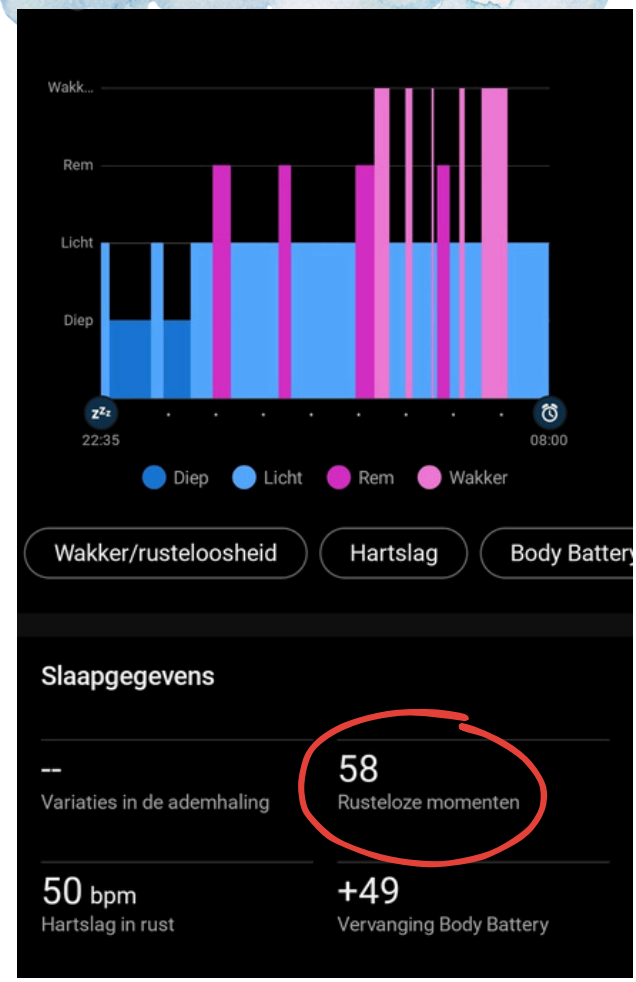
Step goal as a limit
I set my step goal to 1600 so I can see in the app which days I've exceeded it. A "goal achieved" notification can be a sign to ease up on my steps.

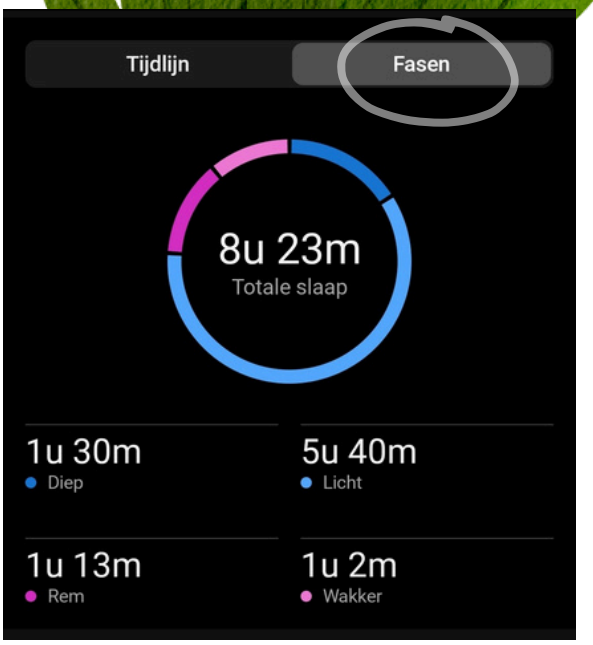


Movements like chopping vegetables are sometimes counted as steps. Wear your watch on the left side if you're right-handed to avoid this.

Steps as progress
You can find your average step count in the bottom left corner of your step data. If your average increases without causing any symptoms or PEMs, you can consider this progress. For this person, purchasing a Garmin was the final step needed to help her progress. She felt she could do more, but she also maintained good pacing with the help of a physiotherapist to prevent relapses.

SLEEP





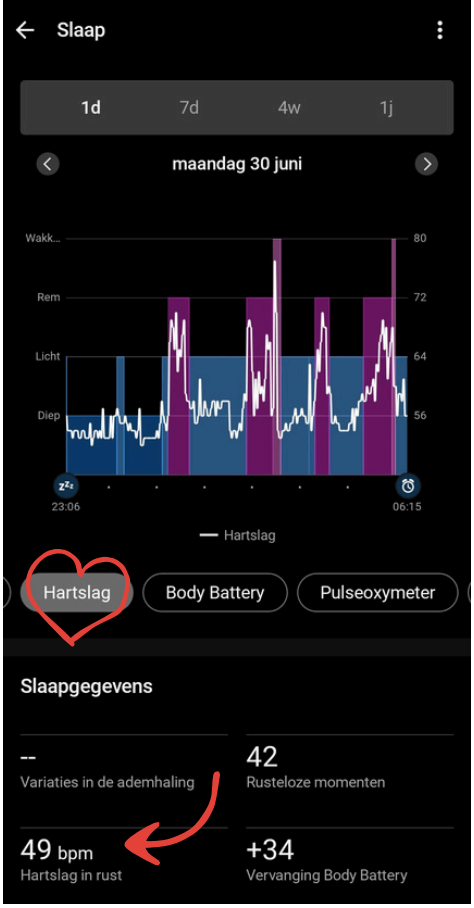
Reliability
Some watches track your sleep phases. On YouTube, you'll find several people comparing these results with those from more reliable devices. It's a nice idea, but watches aren't great at it. The Quantified Scientist's channel compares many different smartwatches with all sorts of expensive equipment. Definitely worth checking out. Although watches aren't super reliable at measuring sleep phases, some people find they can still be useful.

REM and Deep Sleep
Less, no or much more deep sleep than normal could be a sign that you need more rest that day. The same applies to a block of deep sleep if you normally get more. You can look at your REM sleep similarly, but most people seem to focus primarily on deep sleep. Garmin also gives you a total sleep score. If it's low, you can also choose to take it easier.

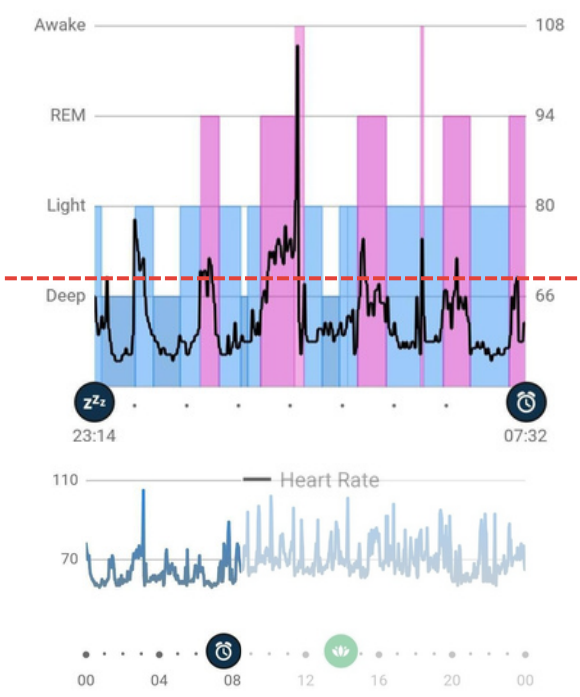
Awake/Restless
The light pink blocks indicate being awake. A Garmin watch tracks your restless moments per night. This can also give you an idea of how you're doing.
You really need to decide for yourself whether these things are true for you and whether they are relevant for you.

Nighttime heart rate

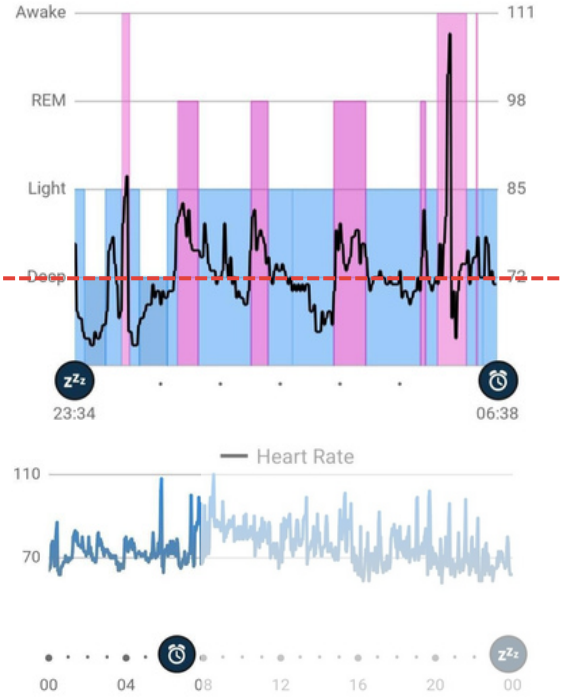
You don't want your lowest stable resting heart rate at night to rise or fall. That's a sign of having done to much or PEM.
If you click the heart rate button, you'll see your heart rate superimposed on the nighttime graph. You don't want to see any excessively high peaks. In the example, you see the times she went to the bathroom during both nights. That's not a problem. The heart rate dips are a bit deeper, which is what you want to see.
During the bad night, the graph shows a higher heart rate. Note that the heart rate is displayed differently in both graphs (see red line). This gives a slightly distorted picture. In the separate heart rate graph below, you can better see that the good night is below the 70 line and the bad night is at/above the 70 line.



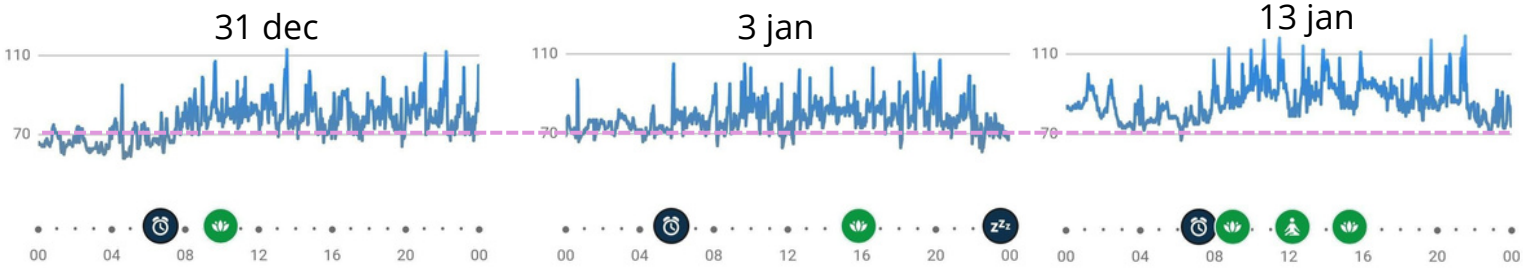
A good night



A bad night



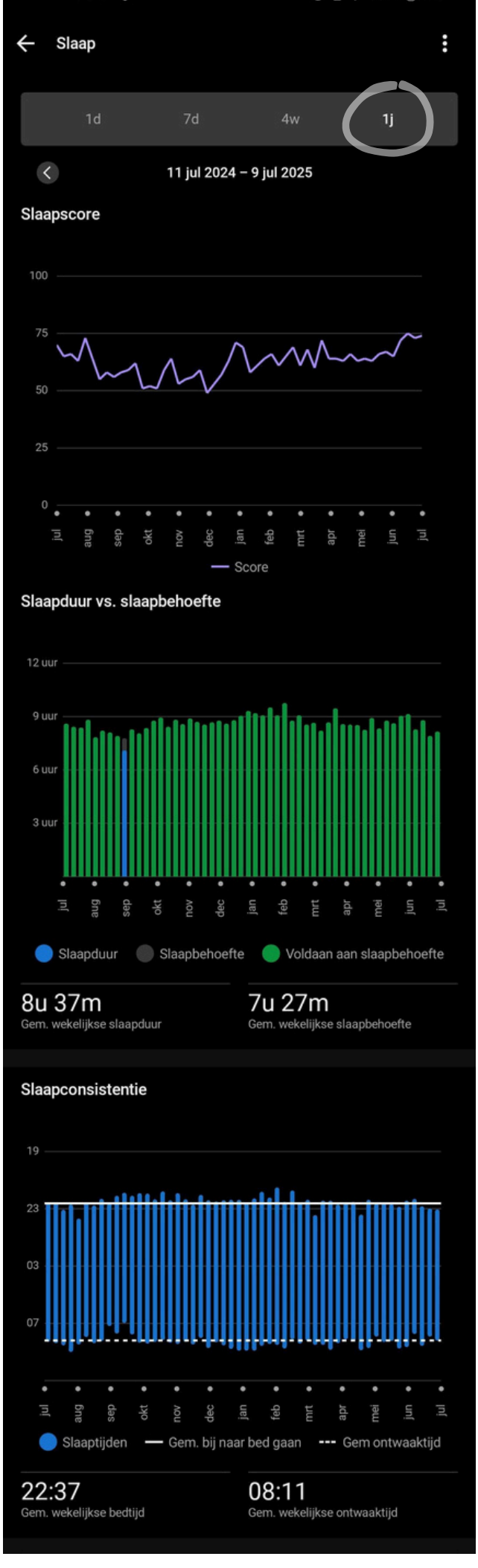
After New Year's Eve, her sleep keeps getting worse and she has difficulty getting out of her PEM



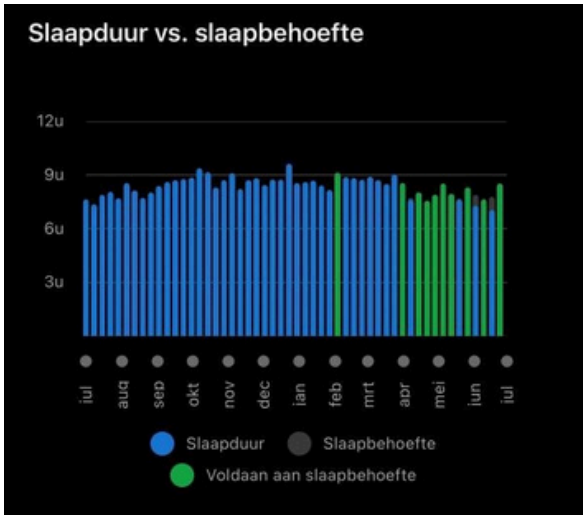
Sleep Score
Of the three graphs in the annual sleep overview, the sleep score seems to be the best way to determine whether your sleep, and therefore perhaps your health, has changed. The sleep score and sleep need have only been available since 2021, so older models don't have this score.

Sleep Duration
In your annual overview, you'll find a graph showing your sleep duration versus your estimated sleep need. The estimated sleep need isn't designed for people with chronic illnesses, so you can probably ignore it. The graph does show whether your sleep has increased or decreased. It doesn't seem like a real indicator of health changes, but someone mentioned that she could see in it when she started taking a sleep medication, and another when she started taking LDN.

Sleep consistency
Many people find that consistently going to bed at the same time has a positive effect on their energy and symptoms. Especially sleeping an hour later or waking up an hour earlier than usual can impact your daytime energy when you have a chronic illness. You can find your sleep consistency in the annual chart below the sleep duration (vs. sleep need) chart.



This person started taking sleep medication in January, which helps her sleep better



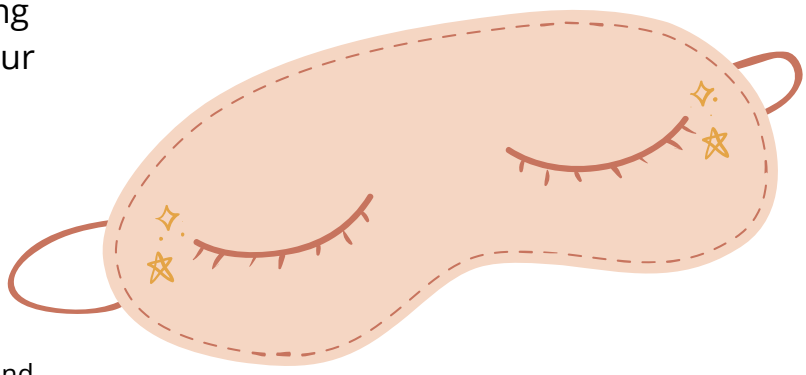
At the beginning of the year, this person needed less sleep, but she doesn't feel she's gotten worse throughout the year. She has been taking LDN for two months, which has helped her and may also help her need less sleep.

PEM signs

Sleeping longer than usual is a typical PEM symptom. Many of us go to bed at around the same time every day and don't set an alarm clock, so our bodies can sleep exactly as much as they need. At the start of PEM, it's common to wake up an hour or more later than usual. If it takes a long time to fall asleep after pushing yourself too far, you can definitely suspect you'll have PEM the next day or the day after that. If you push yourself way too far, you might even not be able to fall asleep at all. It's still a good idea to lie down and properly rest anyway. Spending more energy at night can make your next day's PEM symptoms worse than necessary.

Garmin bicep band

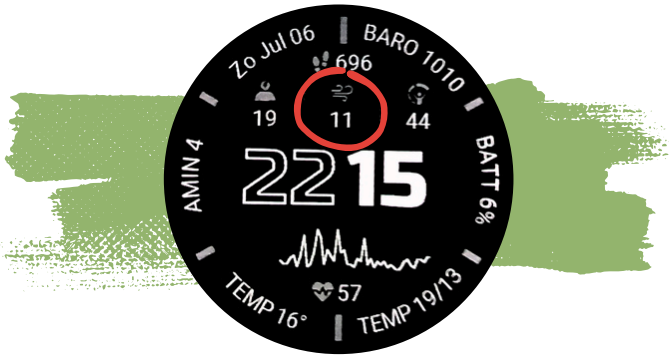
The Index sleep monitor is a €160 band for your biceps if you find a watch on your wrist uncomfortable at night. It's also possible to buy a watch band that folds over itself. At its longest setting, it could be worn on the biceps. If it doesn't fit on the outside of your arm, just below your shoulder muscle, it can be worn lower and further back or forward. Sleep data may be less reliable this way.[1]



1. Index sleep monitor manual:
Putting on the Index Sleep Monitor Sleep Band

RESPIRATION RATE

When you inhale, your heart rate increases slightly, and when you exhale, it decreases again. This allows your watch to estimate how many breaths you take per minute. If other factors, such as movement, influence your heart rate, it becomes more difficult for your watch to estimate this. So, if you think it's wrong, you might be correct.



Exhale longer
Your breathing can say something about your autonomic nervous system. The two systems that are very important to us are the stress system, the **sympathetic system**, and the relaxation system, the **parasympathetic system**. You want to be able to switch easily between them. Sometimes we get stuck in the stress system even though we're actually trying to rest. You can often see this happen when you have a high number of breaths per minute.

So pay close attention to what a relaxed amount of breaths is for you and keep that in mind when you look at your watch to gauge how you are doing.

Abdominal breathing
There are many breathing exercises and even entire breathing techniques specifically for PAIS like ME and long covid. I'd like to focus on normal breathing. Inhalation is thought to activate the stress system, and exhalation activates the relaxation system. Therefore, when trying to relax, it's helpful to make your exhalation longer than your inhalation. A pause after exhaling also works. Breathing with your **chest** rising and falling tell you body you are in situation that need the stress system like when you exercise or run away from something. Breathing with your **abdomen** rising and falling tells your body you are in a relaxed and safe situation. While lying down, you can place one hand on your chest and one on your abdomen to see if you've unconsciously started breathing with your chest. There are also watch apps with breathing exercises.

PULSE OX

The saturation meter or pulse oximeter on your smartwatch measures the amount of oxygen in your blood. People with ME and long covid say the measurements are very unreliable. I've indeed found studies that indicate they're often wrong but I've also found one study that looks at this differently.

For example, one study discusses the Huawei Band 7 smartwatch. It was tested with a finger pulse oximeter: the Beurer PO 30 brand pulse oximeter. Simultaneously, the blood oxygen was also measured in the blood using medical equipment. On average, the watch was off by 1.79 points, with a maximum of 7.43 points too low and 4.87 points too high. The watch often measured lower than the blood gas values. The finger pulse oximeter was more often off by a wider and lower margin than the watch. The study was conducted on people with COPD. The researchers believe the watch is accurate enough to monitor oxygen therapy at home.[1]

In another study, the Garmin fēnix® 6 Pro watch was off by a maximum of four points. It was deemed unsuitable for medical use, but that seems like an unnecessary conclusion to me. The COPD study also states that it was already clear that watches are not medical devices.[2]

Long covid patients sometimes report that their saturation decreases after standing or moving for a while. When patients have consulted doctors about this, the advice seems to be primarily to lie down again if they experience symptoms. This is likely because patients themselves report that their saturation increases when lying down. Perhaps this group could benefit from pulse ox measurements in the future if more information about long covid and blood oxygen becomes available.

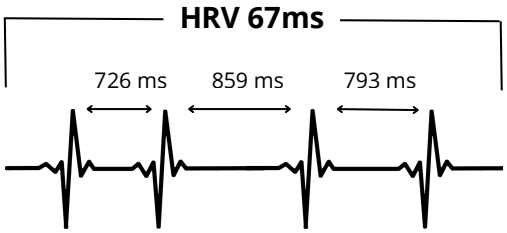
How incorrectly a smartwatch measures blood oxygen varies. Be sure to look for a study that tests your own watch. You can improve the quality of your measurements by wearing your watch correctly, keeping the sensor and your skin clean and dry, and shaving the hair under the sensor, but according to the study, the effect was very small.[2]

Source 3 contains a nice graph showing that an Apple Watch performs much better than the Garmin Venu 2s.[3] My Venu 3s performs so poorly compared to a finger pulse oximeter (metic saturation meter) that I turned the function off to save battery life.

1. https://pmc.ncbi.nlm.nih.gov/articles/PMC12085124/#:~:text=In%20literature%2C%20there%20are%20several,is%20still%20the%20major%20concern
2. https://journals.cambridgemedia.com.au/jhtam/volume-5-number-2/accuracy-pulse-oximetry-using-garmin-fenixr-6-pro-watch
3. https://pmc.ncbi.nlm.nih.gov/articles/PMC10337940/

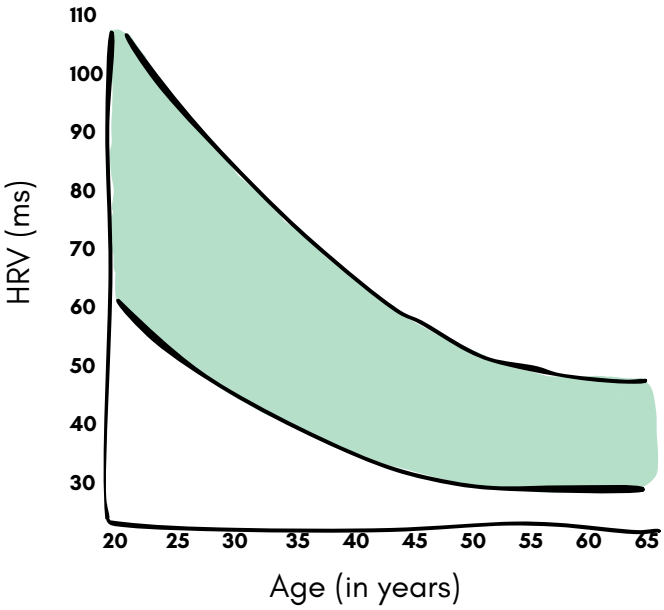
HRV STATUS

Your heart beats several times per minute. The time between heartbeats varies. Sometimes the difference is greater, sometimes less. This is called Heart Rate Variability (HRV).



The autonomic nervous system regulates things like your breathing, digestion, and heart rate. The autonomic nervous system includes the **stress system (sympathetic system)** and the **relaxation system (parasympathetic system)**. These two systems send signals to the heart, causing the variation. The graph shows what's roughly normal for each age. High variation, a high HRV, is seen in healthy people who recover well. Low HRV occurs when the balance of the autonomic nervous system is disrupted. This can be caused by chronic illnesses, mental illnesses like PTSD, lifestyle factors, and external factors like temperature and noise. How high someone's HRV can become depends on various factors, such as age, but there are also fit people and athletes with an HRV of 40. Therefore, comparing your HRV to others isn't always helpful. Compare your HRV to your own previous measurements.[1]

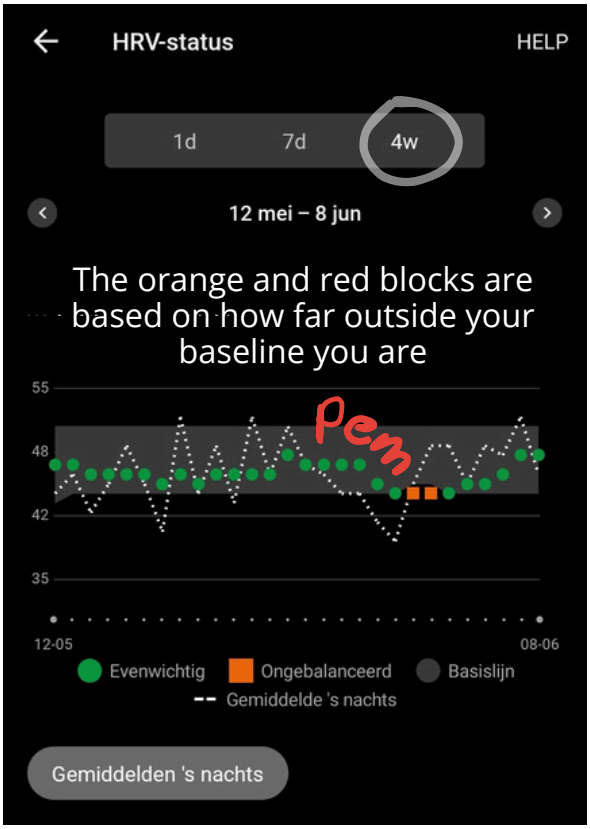
Middle 50% of HRV scores per age [2]



Garmin has broken down your HRV into your nighttime HRV and your stress score. In your sleep graph, you can click on your nighttime HRV. This shows you how much your HRV fluctuates during the night. This makes it difficult to extract information from it. An average of the night is easier to interpret.

1. pmc.ncbi.nlm.nih.gov/articles/PMC11333334/
2. www.whoop.com/us/en/thelocker/heart-rate-variability-hrv/

Your average overnight HRV shows you how the previous day impacted your health. It can fluctuate significantly. That's why the dots you see in your HRV status are the average of the past seven days. This creates a more stable graph that gives you an idea of how your HRV is changing overall. Not every Garmin device offers the option to view your HRV status. HRV watch apps can bypass this my having you do a morning measurement. With PAIS, this is a very useful feature that I highly recommend. You can get a decent idea from it when your PEM starts, whether you're already out of it or perhaps not quite out of it yet, meaning you need to be very careful with your energy.



Rising HRV

So you'd prefer a high HRV. A steady upward trend can indicate that your health is improving, but that's not always the case. Your HRV can also increase if you have a mild case of the flu, as your body has to actively work to recover from it. Similarly, you might see a higher HRV when you're doing more than you can handle, but not so much that it's impairing your ability to recover.[1]

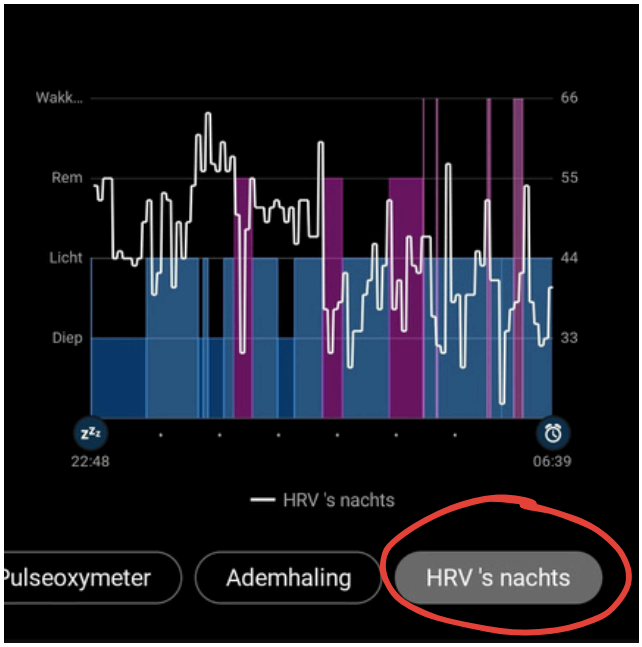
Declining HRV

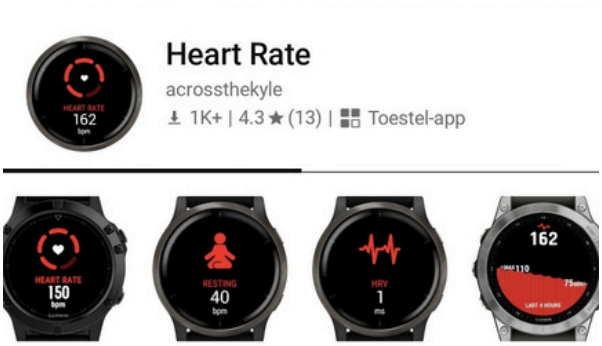
A declining HRV can be seen when you've stopped doing mild overexertion. It also drops when you've become seriously ill or overexerted yourself to the point that your ability to recover is reduced. In conditions like ME/CFS, this is clearly visible when experiencing PEM, which is caused by overexertion. With PEM, you often see a drop in HRV, even though the person still feels okay for a day or two. Knowing they've overexerted themselves, they take days of rest, but despite taking it very easy, the HRV remains low for a few days and then rises again as they recover from PEM. The Dutch vermoeidheidkliniek thinks a decrease of 10 HRV points compared to the previous day can indicate PEM.

1. https://help.elitehrv.com/article/78-is-a-higher-hrv-always-better

Overnight Averages
It's helpful to click the "Overnight Averages" button in your 4-week overview. This will help you see if your HRV suddenly drops significantly. This can help you predict whether you're going to have a PEM or determine whether it would be wise to take it easier. If your HRV slowly decreases and you know you've been demanding a lot from your body for a while, you can also take that as a sign to take it easier.

Morning HRV
You often see athletes using HRV. Because exercise impacts your HRV for hours or even days, you might notice it's higher or lower half of the night, which impacts your HRV score. Athletes therefore prefer to measure their HRV in the morning before getting up. You can do this manually by clicking on "Health Snapshot" in your apps. You'll want to lie completely still for two minutes, not talking, and not swallowing. Likewise, you can download apps that show your HRV over five minutes instead of two or even in real time if you prefer.





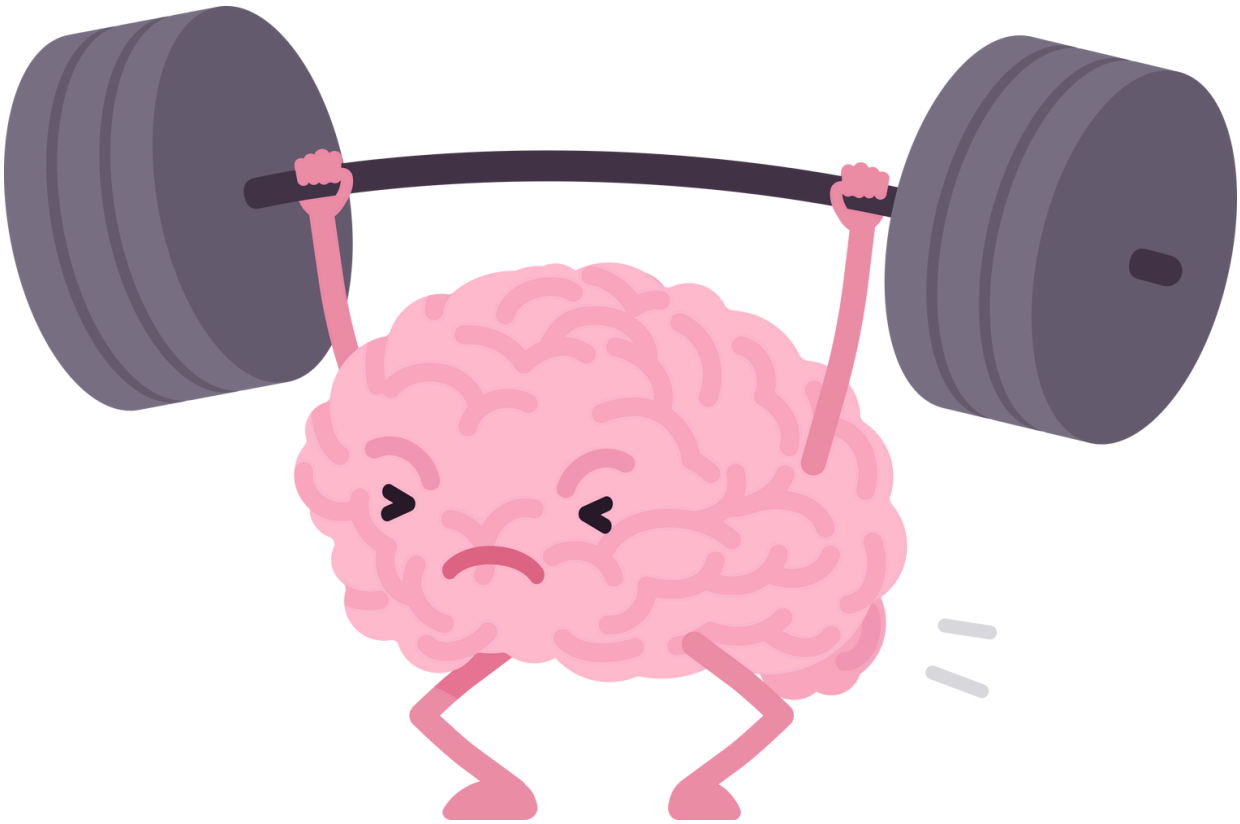
Long-Covid HRV Study

A study was conducted on HRV changes in the 24 hours after exercise in both healthy people and those with long covid. The studie shows that the HRV of healthy people rises and falls in an arc. In people with mild and severe long-covid, their recovery capacity responded less well. HRV increased significantly less, and during intense exercise, it barely increased at all. This indicates that people with long covid recover less well from exercise. An interesting study to read!

https://www.medrxiv.org/content/10.1101/2025.03.18.25320115v1.full

HRV training

There's such a thing as HRV training. These are usually breathing exercises that affect your heart rate. If you find the breathing rhythm that increases your HRV, you can breathe this way twice a day for 15 minutes for a few weeks. Your heart should then automatically adopt this improved rhythm at rest. If you'd like to learn more about this, you can look up health and performance psychologist Leah Lagos. Optimizing people's HRV is her job.

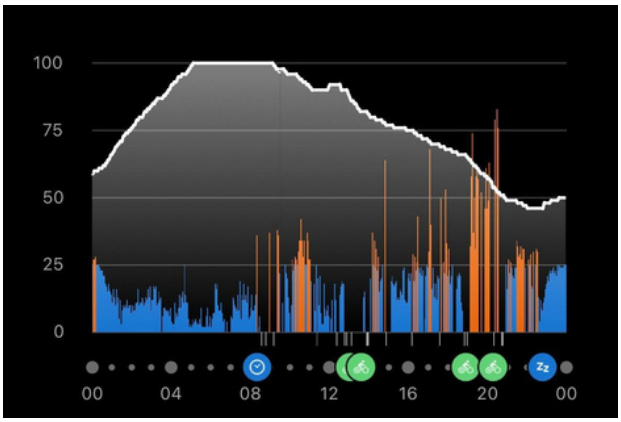


STRESS

In the HRV status chapter, you learned what HRV is. Garmin has created much easier-to-understand numbers for your daytime HRV. A score between 0 and 100 they called stress. The word stress can be a bit confusing. It's about how hard your body is working. This can be influenced by all sorts of things, not just mental stress.

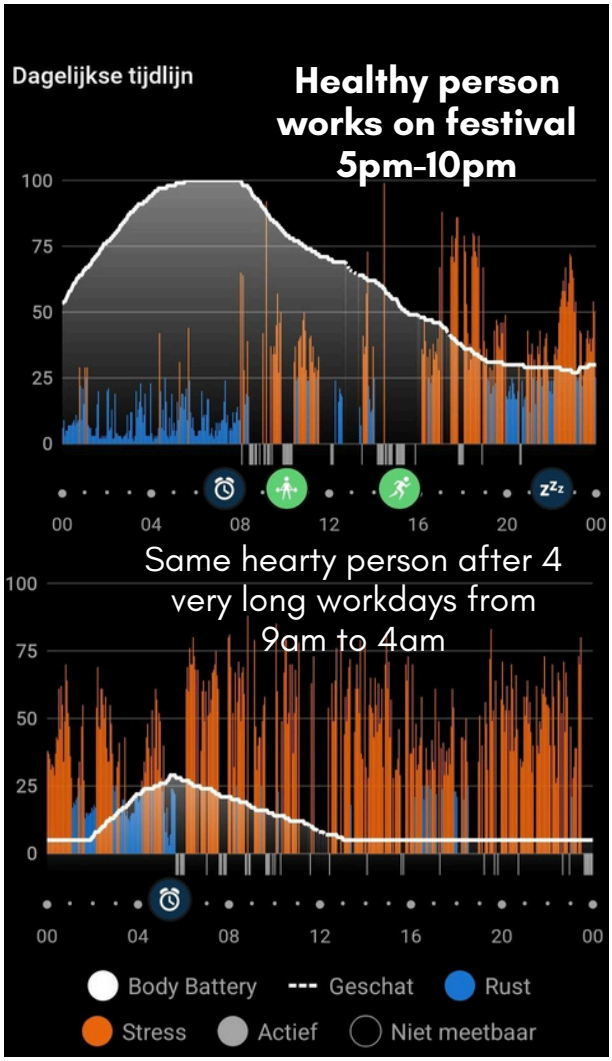
Ideally
You should see a low, blue stress score when you're relaxing and therefore in your **relaxation mode/system,** and a higher, orange stress score when you're in your **stress mode/system**. **You don't need to relax all day.** A healthy nervous system can easily and quickly switch between the two systems. You want to see a kind of sawtooth pattern during the day. Alternate periods of activity with periods of relaxation/recovery. If you recover well, you can have a lot of orange during the day without too many consequences like getting fatigued.

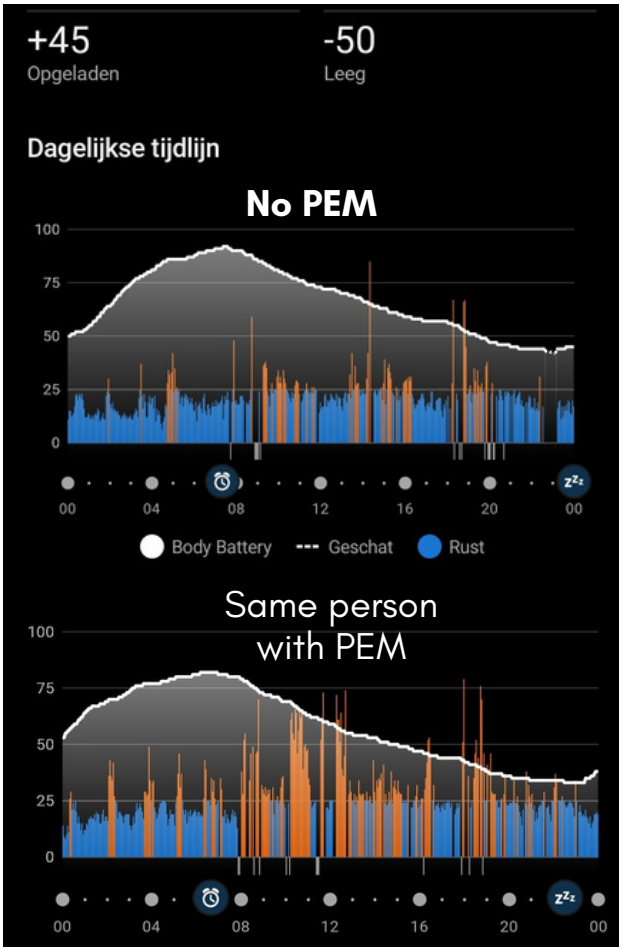
For people with a chronic illness, it's desirable to see more blue, especially when doing something to recover, like lying down. You want to see that your body is actually able to relax and recover.

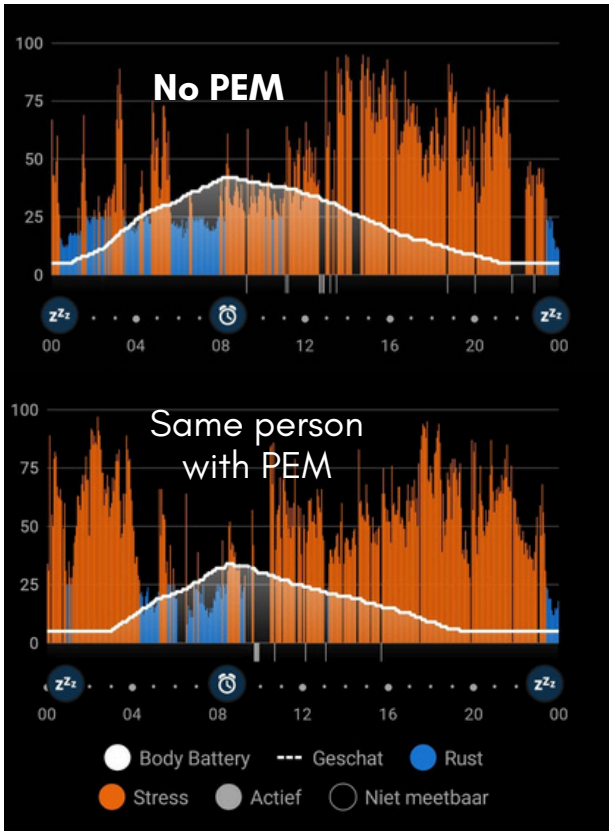


Nighttime Stress

You recover at night. You want to see this reflected in your nighttime stress scores. Blue nights are good. In healthy profiles, you often see very low blue waves. That's good. People with ME and long covid often see more orange at night. If you see more orange at night than is normal for you, it could indicate that you're experiencing PEM or that you will need more rest that day. When you're disrupted in this way, you often also see higher and more variable heart rates. This makes it harder for your watch to accurately estimate when you're falling asleep, waking up, taking a nap, or doing an activity. As a result, such data can sometimes be inaccurate.







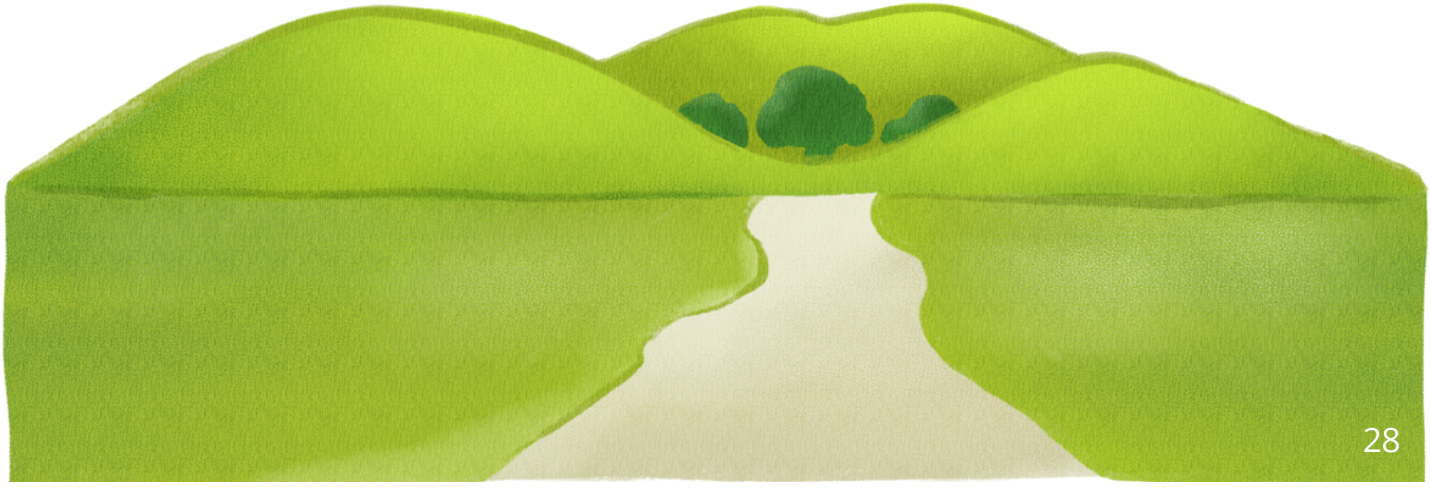
Stress as a Pacing Tool

During the day, you can see when an activity gives you a higher stress score. You can then reflect on what you did and determine the impact of activities on your stress score. If you see blue, you can also recall which activities or circumstances caused it and possibly do more of those kinds of activities. Sometimes it's enough to do an activity for a shorter time or at a slower pace. Sometimes it's better to wait until your body and autonomic nervous system are more stable to do a taxing activity. Figuring out for yourself what affects your stress score can be hard, but once you know, it's invaluable. With this information, you can better manage your energy throughout the day and make sure you truly recover during rest periods. Unfortunately, you'll have to find your own way through this. It can be helpful to track your activities for a few days, for example, using the activity tracker (Appendix 4), so you can compare your activities to your stress chart. That can really help you see the patterns.

Walls of Stress

When you have complete walls of orange during the day, it's much harder to figure out what's impacting your stress score. The heart rate chart from the heart rate chapter might be more helpful. Things that can keep your stress scores high are:

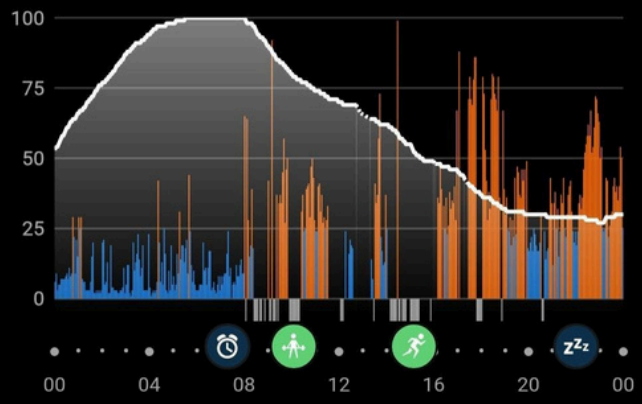
- Eating things you're intolerant to or allergic to, such as gluten or lactose
- Untreated illnesses like dysautonomia and MCAS
- Alcohol
- Junk food or a heavy meal
- Supplements or medications that your body doesn't like
- A flu can suddenly trigger a wall of stress
- Something that causes a lot of stress, such as overstimulation
- Intense emotions
- Late dinner
- Going so far beyond your limits that your resting heart rate remains elevated and your stress level doesn't decrease for a long time & PEM
- The day after you've done to much you can see stress spikes much faster, despite resting
- Ovulation and menstruation



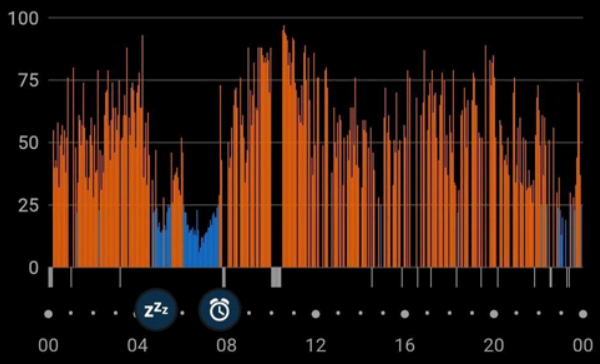
A good day from a person with moderate me/cfs, 1400 steps a day

On an anti-histamine

Healthy person that works from 5pm to 10pm

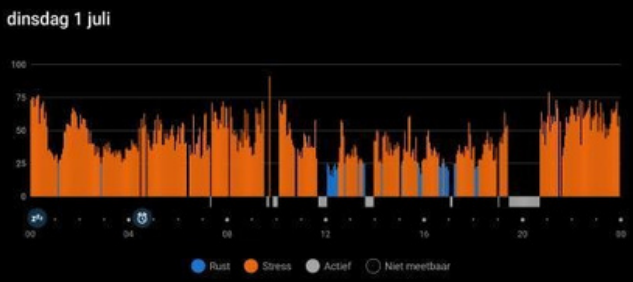


Worked a lot + hay fever

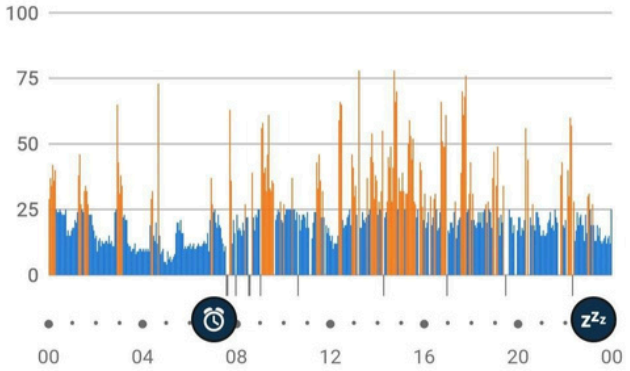


An okay day from this person with very severe long covid with PEM 500-700 steps a day

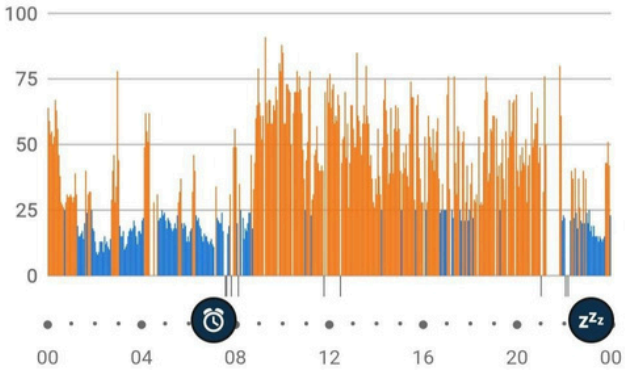
Very hot summer day
Blue = lying on a cooling mat



A good day from this person with modderate-severe long covid with PEM 900-1200 steps a day



Having a cold. On the couch all day



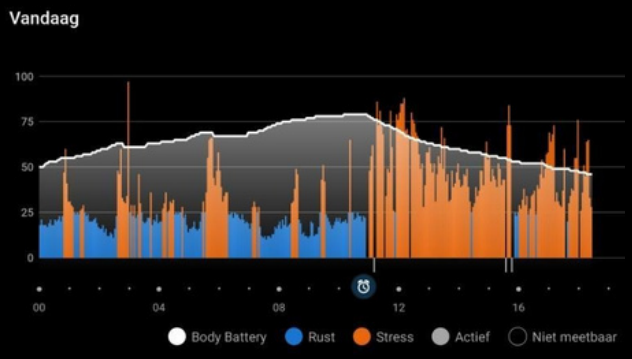
ME classifications: Mild: approximately 50% reduction in activity, moderate: mostly housebound, severe: mostly bedbound, and very severe: bedbound and dependent on help for physical functions

Long covid with PEM, moderate-severe
On average 470 steps a day

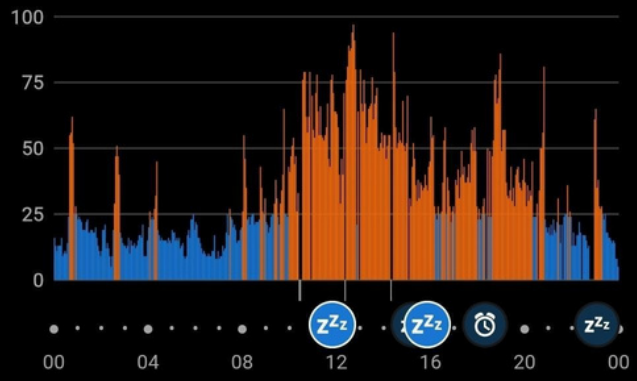
A good day from this person

Corona reinfection

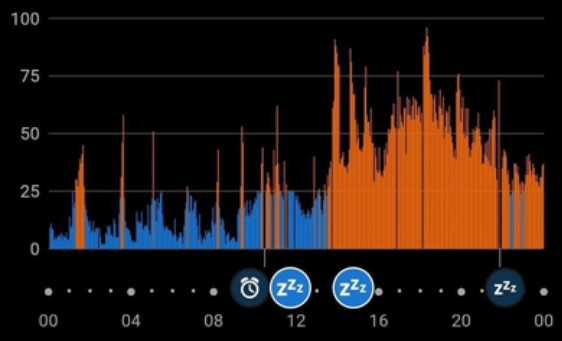
PEM by having done to much the day before



Stress that stayed high after talking with the company doctor

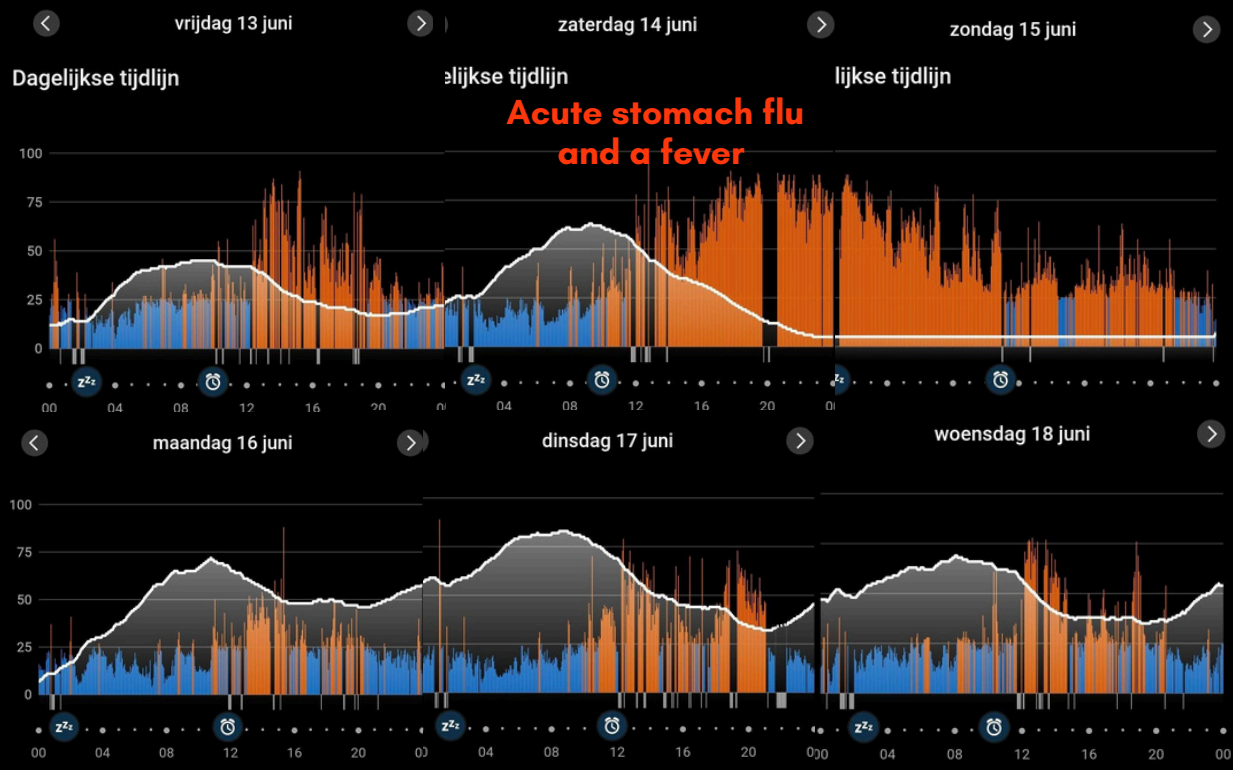


Celebrated her birthday for an hour. Stress stayed high



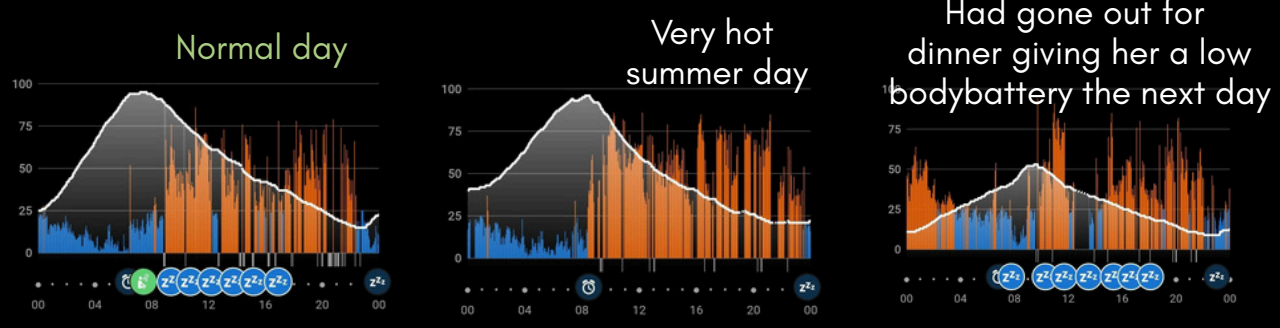
Had pizza a bit before 7pm Her body does not like junkfood it gave her heartpalpitations aswell

Moderate long covid with PEM
On average 3444 steps a day



Mild long covid with PEM
On average 8896 steps a day

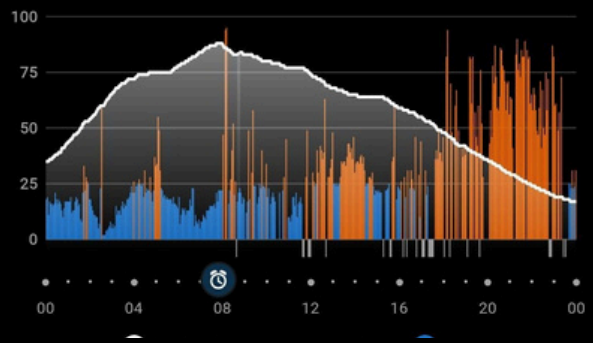
Matige longcovid met PEM,
gemiddeld 2100 stappen per dag



Person with long covid with PEM
On average 3.959 steps a day
Lies down for 16-20u a day

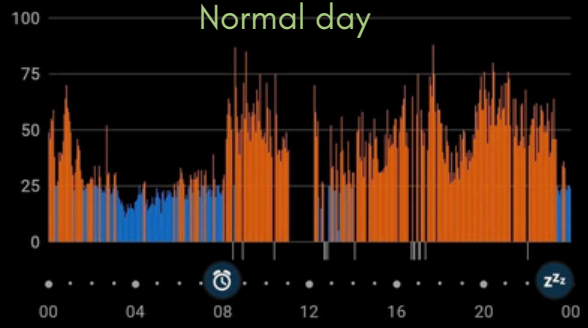
Normal day

Went out for dinner



Person with long covid with PEM
On average 1978 steps a day

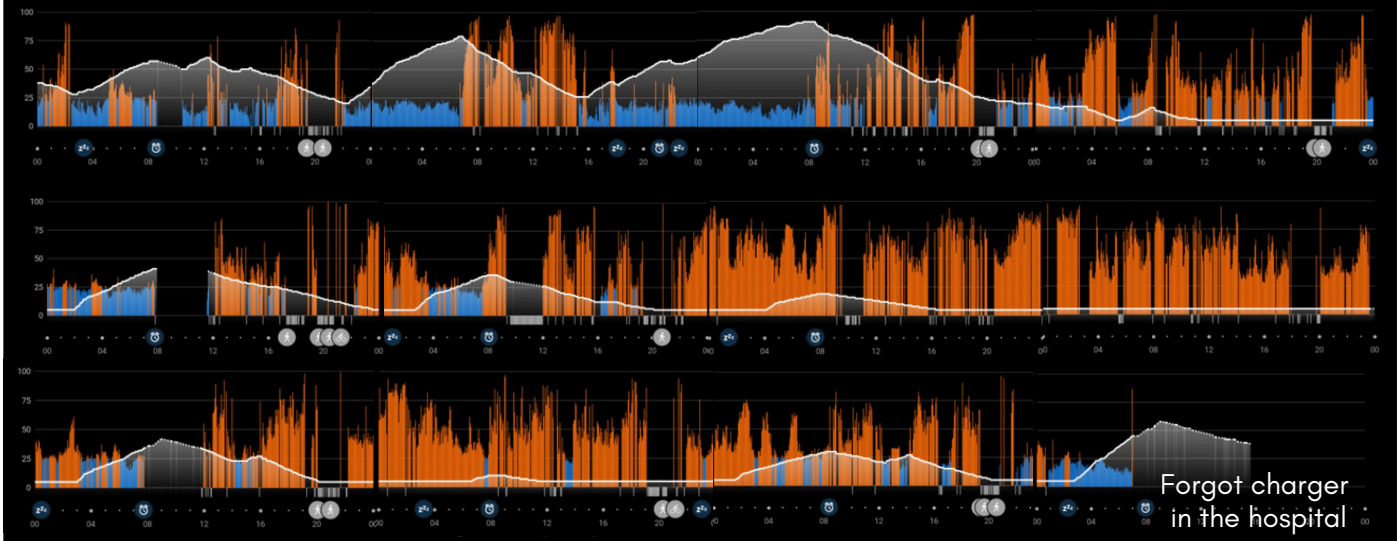
Normal day



Had done to much the day before so in the night and during this day you see a lot of stress

Person with POTS, gastroparesis and possibly ME
On average 4000 steps a day

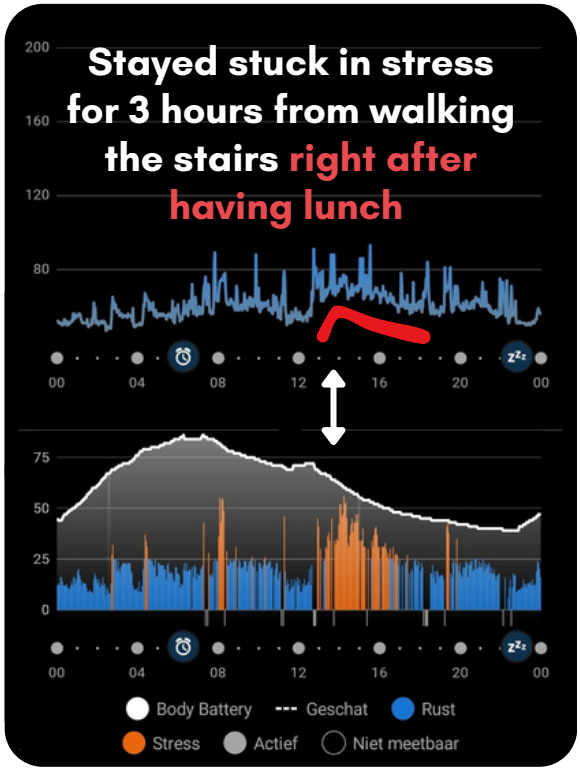
The flu - Influenza B



Forgot charger in the hospital

Stuck in Stress

When you've done something and then lie down, you want to see blue again. Sometimes, usually when your nervous system is a bit unstable due to, for example, PEM or low blood volume, your stress remains high. The activity you did was probably too disruptive for how you were feeling at the time. You might feel restless, have adrenaline-like energy, and perhaps yawn frequently, swallow, or feel the need to stretch frequently. These things are meant to help you relax but you have trouble relaxing at this time. After a while in this state, you might suddenly feel the urge to do go do things, feeling energy you don't actually have. You can try things that engage the relaxation system, the parasympathetic nervous system. These include relaxing activities, but also things like an ice pack on your neck, elevating your legs above your heart (if you have POTS), or vagus nerve exercises.



Sometimes you just can't get out of it. In those cases, you don't have to just lie flat. You can continue with activities that aren't normally triggering and wait until your body is able to relax again. When thing go "wrong" like this, it can be very frustrating. If this bothers you to much, stop actively for a day or more. Especially when recovering from PEM, it can be a lot more pleasant to wait until you're feeling better before reviewing your data again.

Chronic illness stress causes:

- In the example on the previous page, I had low blood volume, which I notice as a headache and dizziness when standing up. Sitting down to eat then causes additional stress, and eating also temporarily lowers my blood volume. This made me feel cold and I wanted to get a sweater.
- Climbing stairs with such low blood volume caused me to remain stressed (POTS)
- Taking a bath that was too hot
- Cleaning the house without support stockings (POTS)
- Not consuming enough salt the day before (POTS)
- Doing too many activities in a row without a break
- Physical activity that keeps the heart rate high for too long
- The adrenaline of having visitors.
- Having two or more people over increases the risk of remaining stressed
- Eating junk food (greasy food). With an "enzyme complex" pill, I, Laure, can eat fatty foods without any reaction
- Physical pain flare-ups
- Noise
- Unforeseen events that cause you to expend more energy than planned.
- Sitting for too long (POTS).

What others with a chronic illness tried to calm their stress system:

Find out for yourself what type of rest you need at that moment.

Physical rest

- Lying with your eyes closed and minimal noise (stimulus-free: sleep mask, and noise-canceling headphones)
- A nap
- Audiobook
- Cuddling

Mental rest

- Calming thoughts
- Meditation/Yoga Nidra
- Breathing exercises
- Wellness products/massage/fragrances

Emotional rest

- Processing emotions
- Computer game
- A relaxing hobby, even if it increases your heart rate

Other

- Vagus nerve exercises
- A cooling mat (for dogs), a cool pack on your neck or chest
- An additional beta blocker (discuss with your doctor if this is allowed)
- If nothing works: get up and get some water or go to the bathroom. Sometimes exercise helps you relax. Exercise might help you process your adrenaline.

There are more kinds of rest. Be sure to look them up.

Relaxing
It would be great if living a calmer life, pacing yourself better, and doing more relaxing things would instantly give you days full of blue. Unfortunately, that's not how it works. Usually, you have to take it easy for a while before your body finds its peace again.

People with illness like ME and long covid sometimes say they don't feel tired, but they do have many symptoms. Our theory is that the body produces too much adrenaline when overdoing things. Especially if you overdo it every day. It lingers for a long time. As a result, you don't feel like you need rest, or you even feel energetic when you actually really need rest. If you take it easy for a few days, you give your body a chance to take away the adrenaline. You may then start to feel exhausted. That's a good thing in this case.

When you're full of adrenaline, you can't listen to your body because you feel energized even though you don't have any. If you wake up in the morning full of energy, or you're busy with an activity and feel super fit and energetic, you can consider it a warning sign that something's wrong.

Adrenaline from fun
Even really fun things can give you adrenaline. I'd be able to pace myself better if I didn't make videos or these kinds of documents. I enjoy making them way too much. It gives me energy every time. This makes it hard for me to feel when I need rest and also makes it hard to stop myself. I can have restless energy for days afterward. Doing fun things that are also calming, like coloring in a coloring book, diamond paintings, crocheting, and other cozy hobbies, are better for putting your nervous system in a relaxed state. They are less likely to give you adrenaline. With such activities, you're also much more likely to be able to stop in time. Things like cuddling your animals, children, partner, or other people also help you relax. There are more things that help your nervous system get into relaxation mode. It's good to do this often. Visualizations where you imagine yourself doing something relaxing or recalling pleasant memories also work.

Overall Stress Score
In your Garmin app dashboard, you'll see an overall daily stress score. You'll see a circle and how much of that circle is orange versus blue. On good days, less than quarter the circle is orange. This way, you can also estimate how much orange is acceptable for you. The less orange you have, the more likely you are to recharge more the next day.

Annual Stress Scores
Your annual stress overview includes a stress score line. If you've paid attention to your own stress scores, you might know that a day with a score of 40 is much more tiring than a day with a score of 30. Such a step appears very small on the graph, but it isn't. This graph shows a kind of stair step. This person has overexerted themselves and their health is deteriorating as a result.
You can find more information about this person in the appendix "data from people with PAIS."

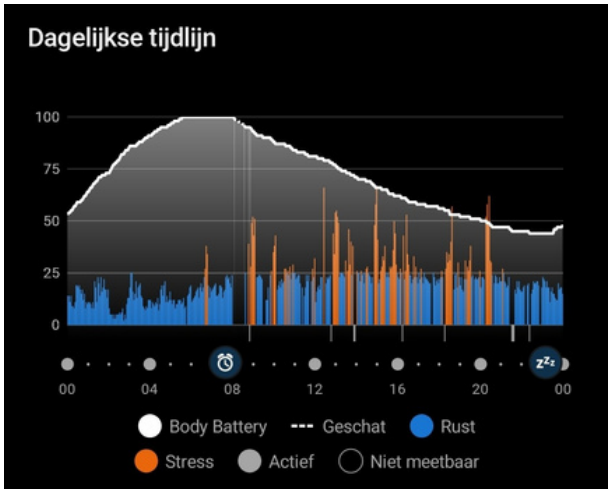
GARMIN BODY BATTERY

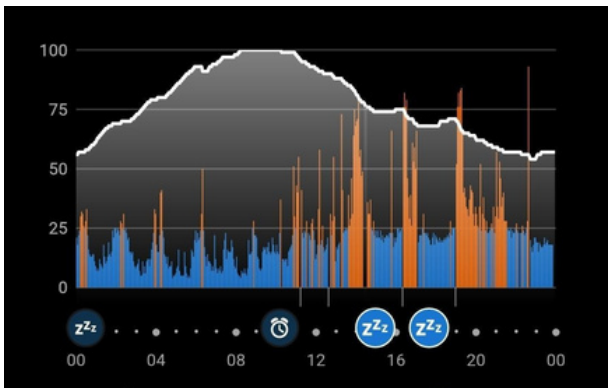
Garmin also provides a line with your stress score that indicates how much you're recharged at night and how quickly daytime activities drain your energy.

People with ME and long covid find it strange to see a body battery of a 100% because they don't feel a 100% charged. It's more accurate to compare it to a phone with a very weak battery. You can charge it to 100%, but as soon as you open an app for an hour, it's already back to 50%. That's why you still have to be very careful with your battery. Your charger isn't working properly either. Your Garmin device shows how much body battery you've recharged. It's wise not to spend more body battery than you gain overnight. If you can spend less than you gain, you might be able to achieve a 100% body battery.

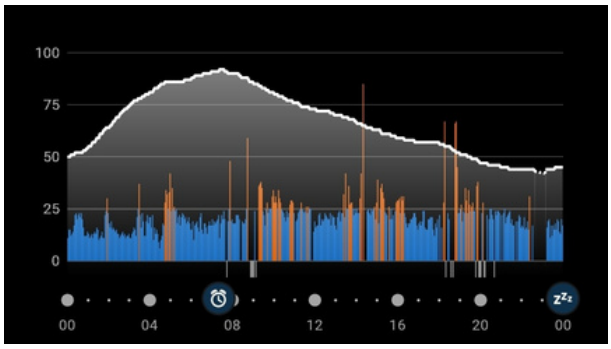
You might feel better and be able to keep your chronic illness more stable if you manage to stay at least above 70-80% body battery and preferably above 100%. The idea of living at the peak of your energy capacity is to be able to absorb unexpected energy expenditures and prevent decline. To be able to do this, you need to have good control over what gives and takes your energy. If you can do this, you're very good at pacing. Some people with ME/CFS make slow progress this way. How much your body battery can charge depends on your watch type and things like your heart rate and set heart rate zones.

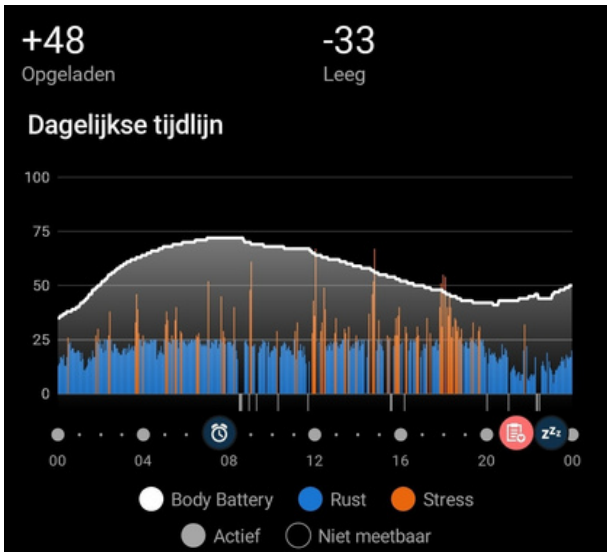
The ideal body battery
Ideally, you want a nice upward curve at night, where you charge to more than 100%. In the morning, your body battery will then slowly decrease in a curve. Healthy people can use up their entire battery, because they fully recharge the next day. However, it's also better for healthy people to leave a buffer. For people with a chronic illness, it's better not to expend more energy than they generate. Setting a specific goal like "don't go below ...%" is possible, but can quickly become frustrating. It's better to focus on pacing your heart rate and stress score. That's what your body battery line is based on anyway.

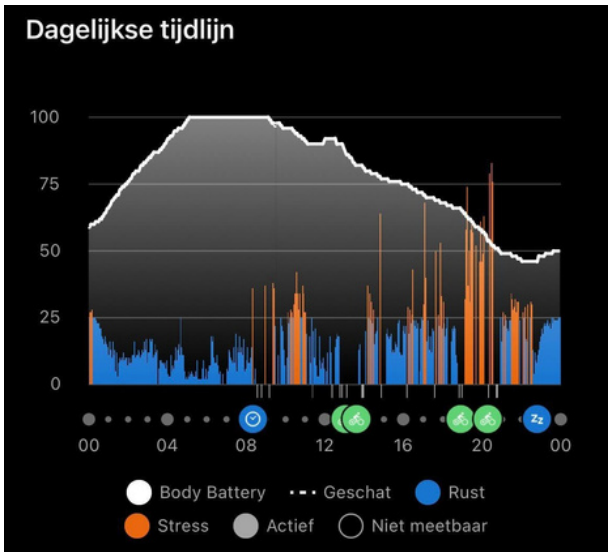




Charge in the evening
Some people notice that their blue lines decrease in the evening and that they already start charging. If you can manage that, definitely take advantage of it. In my graph below, you can see that I start to recharge around 8 p.m. To maintain that, I make sure I don't do any activities or stressful things in the evening.





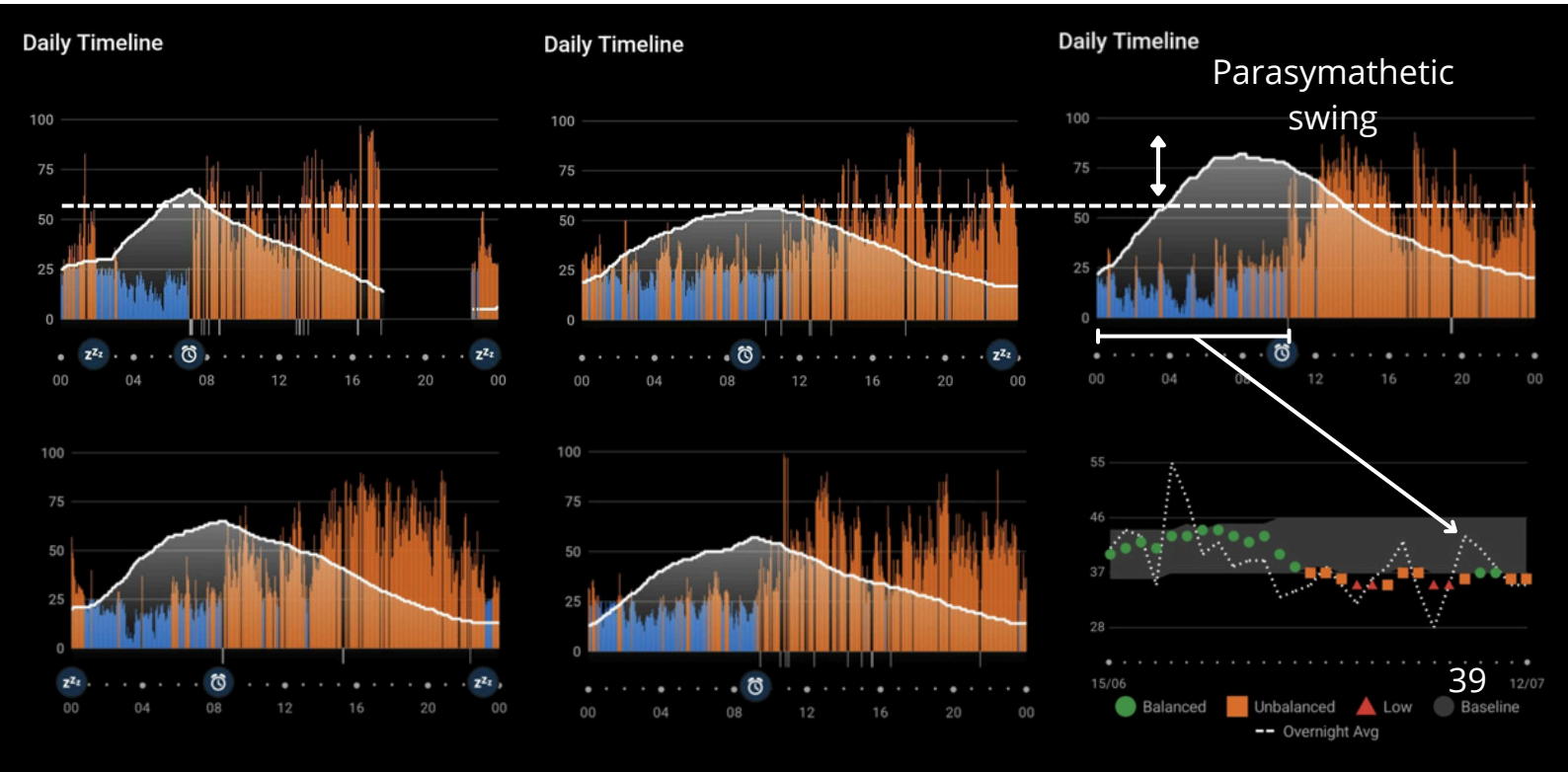


PARASYMPATHETIC SWING

Parasympathetic swing
This person expended a lot of energy on the first day shown in the images. The body battery line drops quite steeply, and the next day she has more orange in her nighttime. A sign of overload or even PEM. You'd expect the following days to be similar, but she suddenly has a very beautiful night with low blue waves and much less orange. She even recharges much more than usual. This unusual reaction to overexertion is called parasympathetic swing or "freeze" by Garmin users. The body likely tries to recover by allows the parasympathetic system to take over or possibly getting somewhat stuck in it. You can also see a spike in HRV readings.
Unfortunately, this doesn't mean you have a lot of energy that day or that you're doing very well. The body battery line usually drops faster than normal.

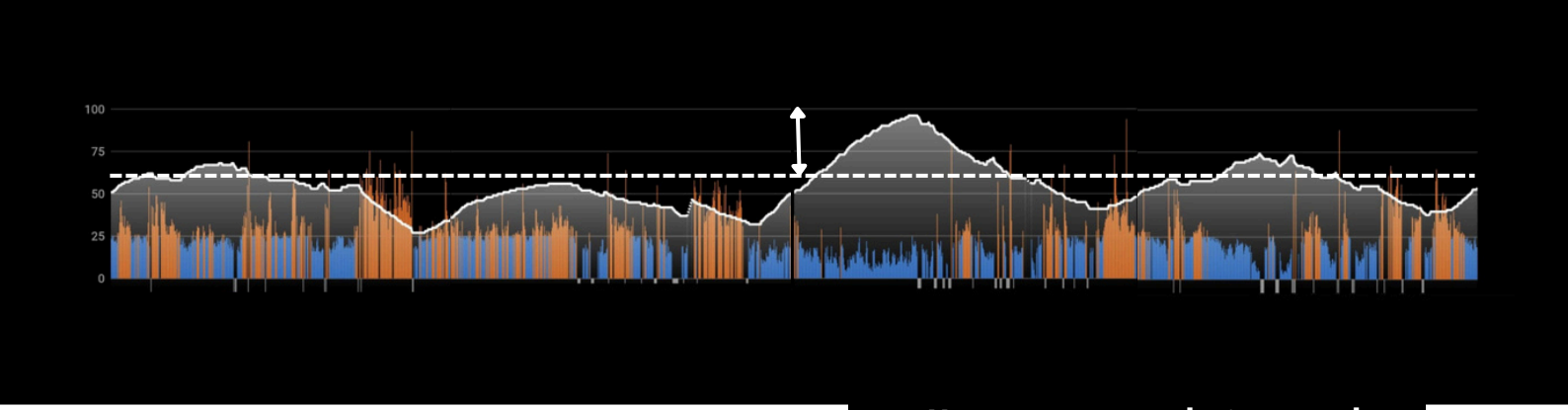
You may more easily experience high stress peaks during the day. So you might wake up in the morning with a high body battery, but you might also suddenly see very low blue lines in the middle of the day, indicating a rising body battery. This could be due to a nap, but if you know you've just expended too much energy and therefore it doesn't make sense that you're suddenly recharging, it could very well be the parasympathetic swing.

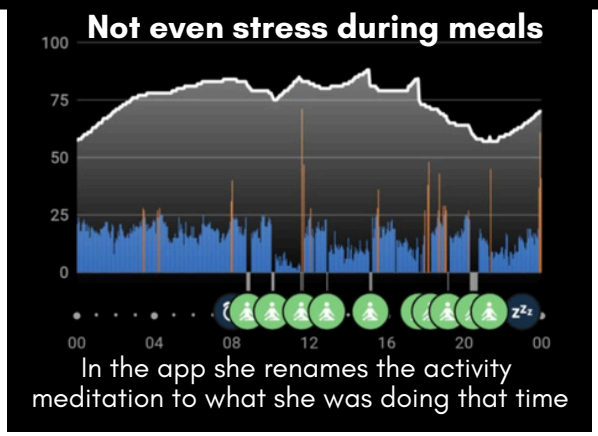
Mental PEM
Too much mental activity, such as working on your laptop or writing, often goes undetected in your Garmin, but excessive mental activity can still cause PEM. It will also cause your HRV to drop that night or the following night. So, be aware that your Garmin can't warn you about everything.



HRV and nighttime heart rate graph
The graph above clearly shows how my HRV peaked on the 31st. On the 30th, I sang cheerfully while sitting. My body didn't appreciate that and initiated the parasympathetic swing that night. Don't be fooled by such "good" values. I'm overexerted. That's why I made sure to rest even more. Despite this, I still experienced slight PEM. My HRV dropped and my nighttime heart rate increased for a few days.

You can see my body battery dropping over several days. To counteract this and get out of PEM as quickly as possible, I'm doing aggressive rest: no light, so sound. There are several schedules for this, such as 20 minutes of rest every 60 minutes. I do it once or twice a day for as long as I can stand it. This can also help with stress walls. With the extra rest and drinking plenty of water and salt for my pots, the dip in my body battery and extra stress in the graphs are also less very mild.





In the app she renames the activity meditation to what she was doing that time

Orthostatic Stress

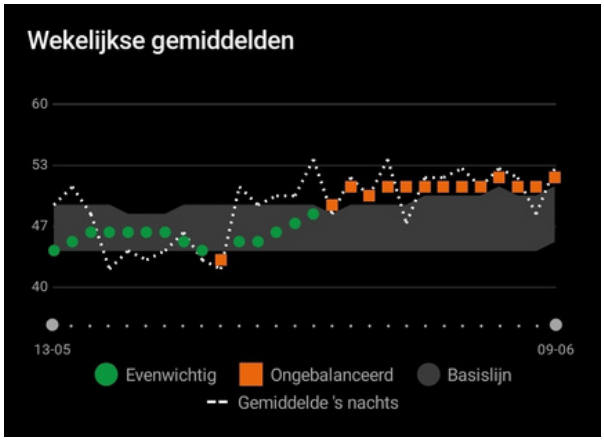
As previously discussed, your autonomic nervous system determines your HRV score. If you have a form of dysautonomia like POTS, your autonomic nervous system struggles to ensure your blood is properly distributed when standing and sitting. This is probably reflected in the stress graph. In particular, eating while sitting often results in a lower HRV for people with POTS but also people with only ME or long covid, and therefore a higher stress score in the stress graph.

Managing your POTS with, for example, compression garments, lifestyle changes, medication, and sufficient water and salt can significantly help reduce daytime stress scores. If you have a high stress score while resting lying down, you could also need more fluids and salt (ORS, oral rehydration salts or electrolytes).

The person experiencing the parasympathetic swing described above also typically has bars of stress while eating. Sometimes her body acts up, causing her to see (almost) no orange/stress all day, even while eating. This is also a sign that she has overexerted herself and needs more rest.

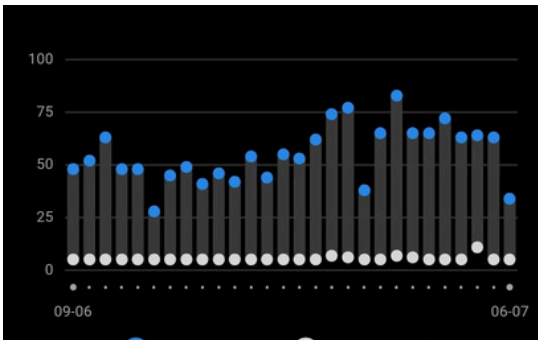
Medication and HRV

In a previous chapter, you saw how medications like beta blockers can significantly impact your heart rate. Similarly, some medications can also affect your HRV. In the image below, you can see how the HRV increased by as much as 10 points after starting propranolol. It takes a while for your HRV baseline to adjust accordingly. It is based on your previous scores. Anything just outside of that range is shown as orange squares. Anything significantly outside of that range is shown as a red triangle.



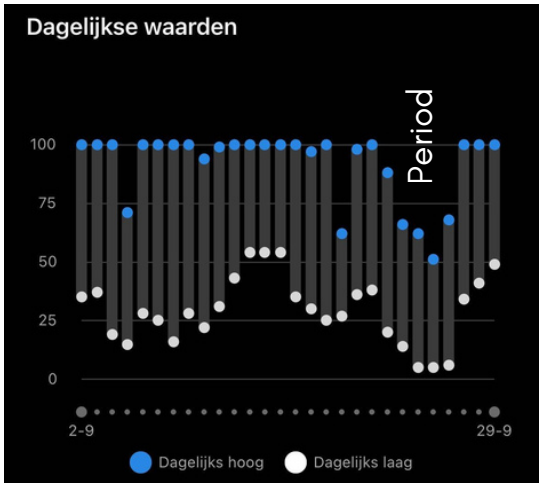
4 week body battery

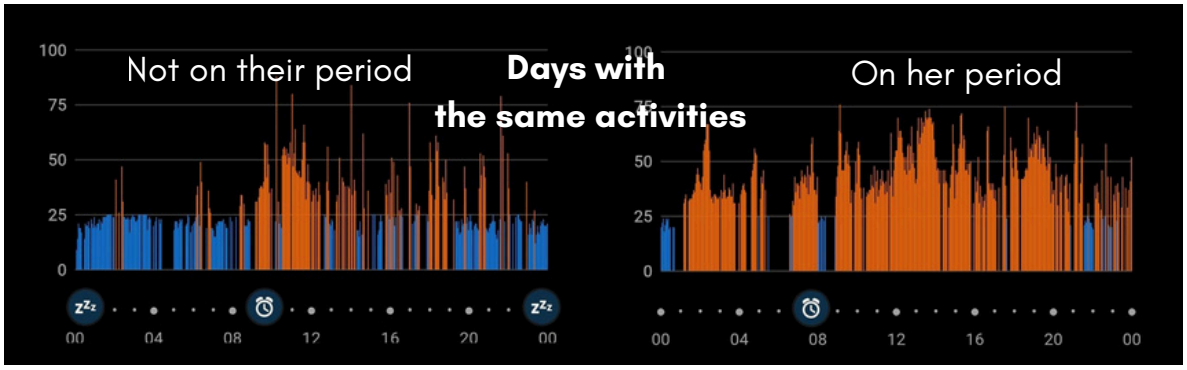
The 4 week body battery chart will tell you whether you're living in the middle, at the top, or at the bottom of your capacity. You always want at least some energy left as a buffer. You don't want to be living at the bottom of your body battery chart. The middle is good, but charging as much as possible every day is probably best.



Ovulation/Menstruation

Many women also notice a decrease in their HRV and body battery, along with higher stress scores, when they ovulate or get their period. They often feel they have less energy as well. Ovulation begins 12–16 days before menstruation.



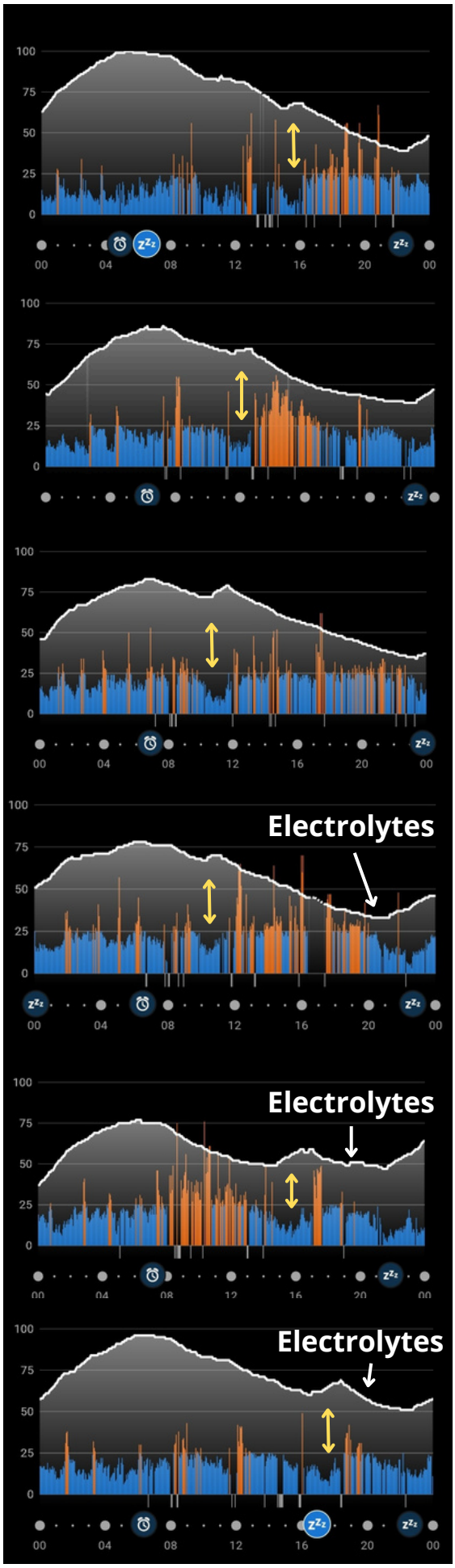


Recognizing Patterns

You want to recognize patterns in your stress, HRV, and body battery. This is an example of a pattern I discovered in my own data. Sometimes, I feel completely exhausted and weak out of nowhere. It can take hours before I realize something's wrong and remember that there is something I can do about it. Depending on the severity, I take one or two packets of electrolytes. (I have POTS) This increases my blood volume. It also contains potassium, something I seem to quickly become deficient in. Since I started taking potassium daily (with my doctor's approval!), it never gets so bad that I can't walk anymore, but I do still get very exhausted at times. I'm not sure whether this pattern is due to a lack of potassium or low blood volume, but it can certainly be resolved with enough electrolytes.

When it happened, I would look at my data and always notice a suspicious dip in my stress where my body battery rises. I feel drugged and sometimes even fall asleep. Afterward, my stress level stays relatively low/blue. It does, however, stay consistently high for blue stress. If I try doing anything it will get me a lot more orange than usual.

Since I recognized this pattern, I take electrolytes as soon as I see a U dip in my stress. That helps so much that now I only get bouts of exhaustion/weakness when I've moved too much without drinking electrolytes. Super helpful!



WATCH APPS

You can download watch apps
in the connect IQ store app

THE PACING APPS

Jens, the husband of someone with PAIS, created four pacing apps. (HERO!) A comprehensive guide is available on the Garmin website. You can download these apps from Garmin's Connect IQ app.

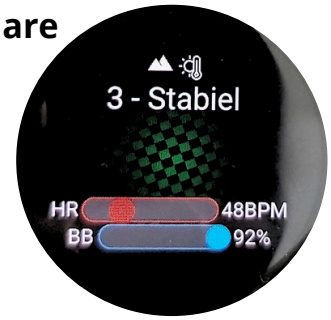
Daily Resilience
By jenshansen
The resilience widget can be downloaded as a standalone app. It's already included with the pacing (activity) app and watchface, so people often download it when they're not using the other apps. This app gives me a good indication of whether I have a PEM or am on my way to one.

1 Careful
2 Worse
3 Stable
4 Better
5 Good

Compared to the past 30 days, your body battery and/or resting heart rate are

1 Much lower	Much higher
2 Lower	Higher
3 The same	The same
4 Higher	Lower
5 Much higher	Much lower


Hotter than the temperature you've set



Pacing(Activity)
By jenshansen
An app that you activate as an activity. It will trigger an alarm if you exceed your set heart rate limit.

See next page for interpretation of green pace bar

Pacing(Datafield)
By jenshansen
When you select an activity, you can customize its data fields in the settings. If you choose IQ apps, you can select the pacing data field. This displays your heart rate and the difference between it and the heart rate you don't want to exceed. It also vibrates or beeps if you do exceed it. Without this app, activities still let you set a heart rate alarm in the settings of the activity itself.

The -47 next to the pacing pulse (which apparently lags a bit behind the real heart rate) tells you how far you are from the set heart rate that you don't want to exceed

THE PACING APPS

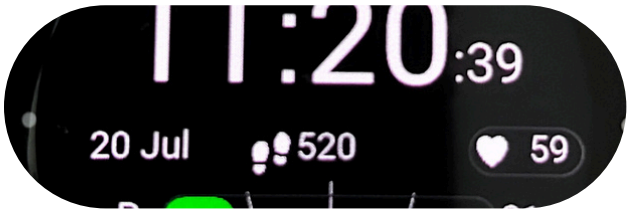
Pacing(watchface)
By jenshansen
This watch face displays a red image when you exceed your set heart rate. For this example, the multiple graph is selected in the settings.

This is where the resilience score is seen. For watches with a touch display, you need to hold the screen to see the score. Interpretation -->

Compared to the past 30 days, your body battery and/or resting heart rate are

1 Much lower	Much higher
2 Lower	Higher
3 The same	The same
4 Higher	Lower
5 Much higher	Much lower

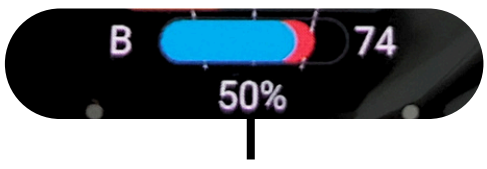
Hotter than the temperature you've set



Date - Steps or breathing rate - Heart rate

Pacing level 21%
The green bar indicates where you are between your resting heart rate and your pacing heart rate.

Your stress score between 1 and 100% is currently: 41

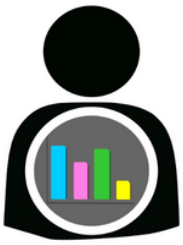


The blue bar and 74 represent your current body battery. The red bar represents how much body battery you've used in the last 2 hours.

The middle of the three lines is 50%. The right line represents 75%, and the left line represents 25%.

A complete guide to the pacing app can be found on the pacing apps website:
https://sites.google.com/view/pacing-with-garmin/other-languages/english

MORE APPS



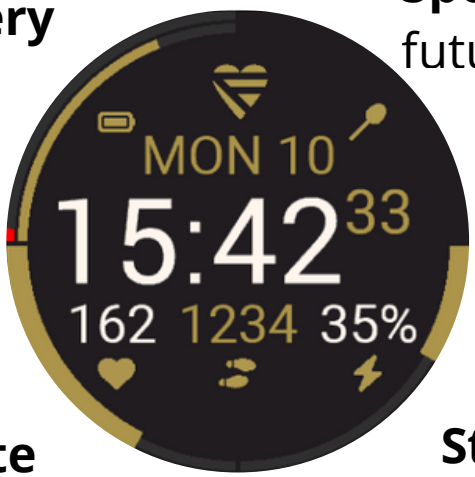
Body Accounting and Rest Reminder
By individual-it (After 7 days 4 dollar)
Vibrates when your body battery has depleted by a set amount within a specified time. You can do the same with stress levels. My settings:
Body battery 5 per 30 minutes
Stress 50 per 20 minutes

JMG-WGT Zones & Alert HR
By Surfy66
An app that, as long as you keep it open, gives an alarm or vibrates when your heart rate rises above a value you set.

Pacing Watch Face
By Fitigued
Easier to find in the IQ store if you search for fitigued.
The watch face displays a red image if you exceed your set heart rate.

Body battery

Spoons
future feature



Heart rate

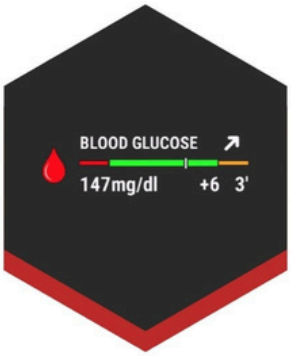
Stress

Symple HRV
By Trudelta (You have to pay for the extra functions)
Some watches can measure HRV but don't display your HRV status. With an HRV app like this one, you can still get a graph of your HRV. It's best to measure your HRV every morning with this app. You do need to purchase the app to see the graph.

AK Pollen
By NoSignal
Various health problems interact with each other. If you're bothered by pollen, it's helpful to know when there's more of it in the air.

FibroTrack - Pain & Symptom Diary for Fybromyalgia
By FeliXGear (Paid)
This app compares your symptoms with your resting heart rate and HRV. This helps identify trends in your health.

HYDRATE+
By MobileDriveway
Garmin's own water tracker doesn't display your water intake on watch faces. This app does show your water intake on your watch face that work with this app, but unfortunately, it's not tracked in the Garmin app.

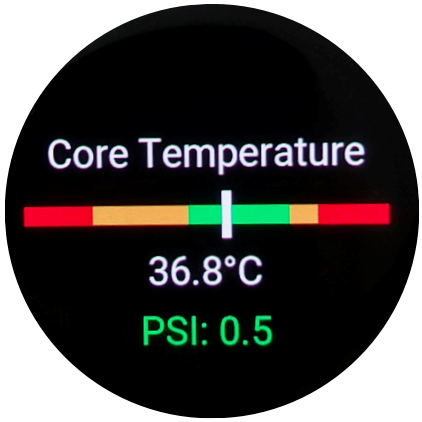


CGM Gauge Widget
By RoboleoApps
If you measure your blood sugar levels with a continuous glucose monitor, you can see those values on your watch and even on some watch faces. **Some people with PAIS who don't have diabetes still benefit significantly from monitoring their blood sugar levels.** More research is being conducted to determine why this is the case.[1]

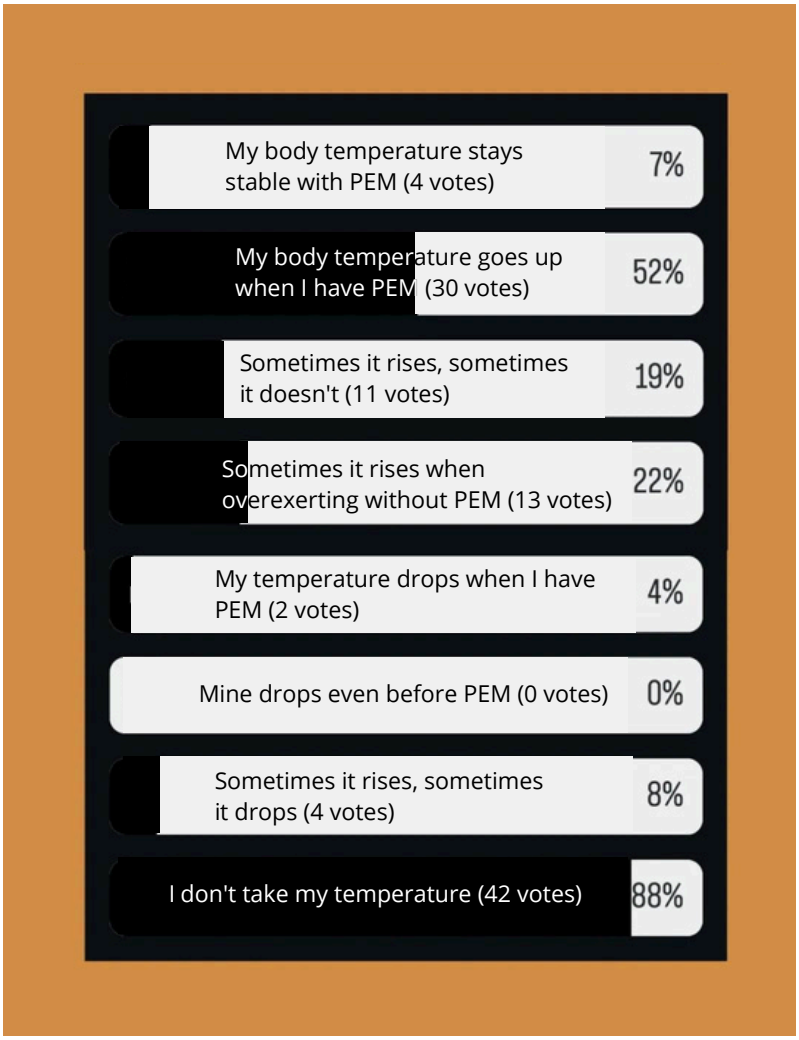
1. https://www.healthline.com/health/covid-hypoglycemia

TEMPERATURE

Core (Body) Temperature 2
By Trudelta
Your wrist temperature isn't the same as the temperature you measure with a thermometer. That's why this app uses more of your data to estimate your body temperature. With the Garmin Venu 3s, you can tap the screen to see a graph spanning several hours.



Many people report a rise in their temperature during a PEM or even before a PEM. A small number report a drop in temperature. When interpreting your temperature, keep in mind that your temperature fluctuates throughout the day and with the seasons. This also applies to your menstrual cycle. This app should also have a function to track this.



Two Instagram polls below eachother

BAROMETER

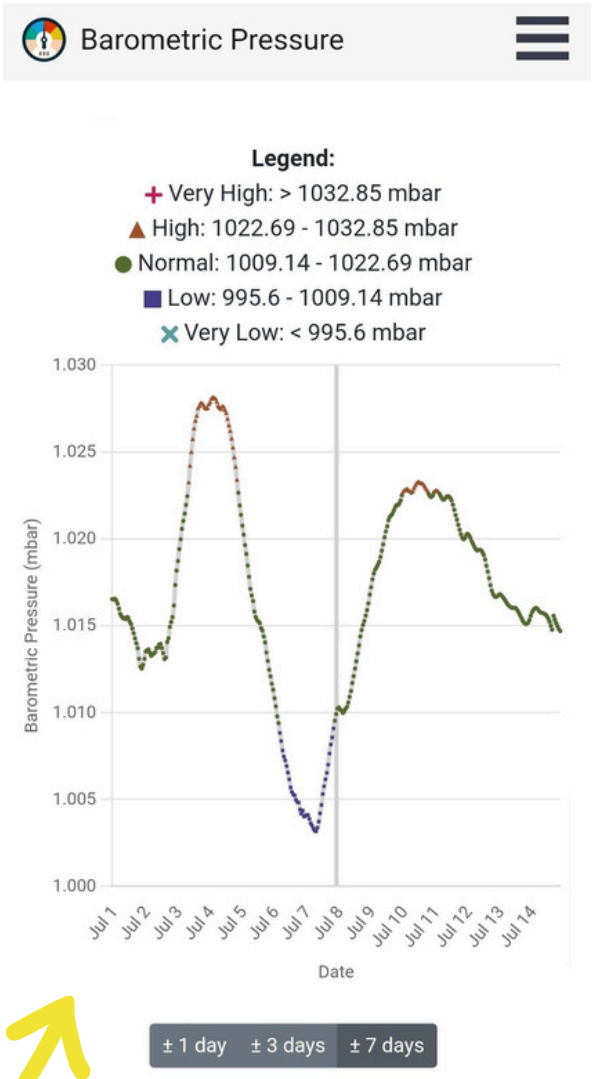
Barometer
By acrossthekyle
Your watch measures barometric pressure, so you don't need an app to see it on your watch face if the watch face has that option. This app not only displays the barometric pressure in your overview but also gives you the option to set an alarm if the pressure drops rapidly in a short period of time.

Why measure barometric pressure?
People with migraines know all too well that changing barometric pressure can give symptoms. There are alarms for them that indicate a significant drop or rise in pressure in a short period of time because his can trigger a migraine attack.

For people with lower blood volume, such as those with POTS, the pressure change or just low barometric pressure in general can be unpleasant. The air pushes against our bodies like a large compression sock. When the pressure is very low, it feels like you're wearing no compression at all or very weak compression. This can leave you feeling dizzy and exhausted.

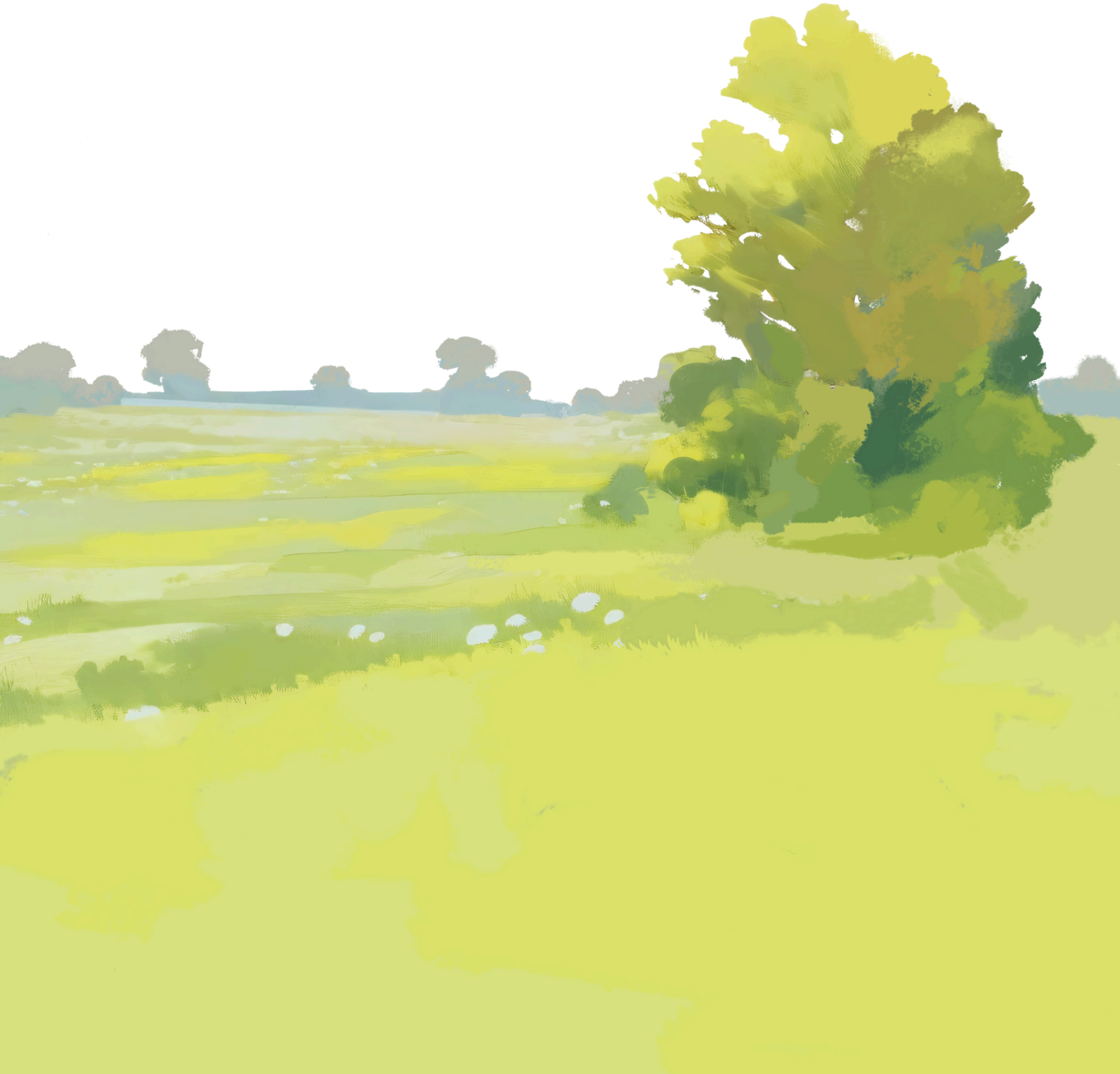
On low barometric pressure days, I wear stronger compression garments and take extra electrolytes. When the barometric pressure is below 980 mBar, I feel like a weak sack of potatoes and spend the day (involuntarily!) lying down until the pressure rises again. A good website to see the pressure changes is:

https://barometricpressure.app/



DATA FROM HEALTHY PEOPLE

I asked healthy people to send screenshots from a stable, good period in their lives so we could get an idea of what really good values look like.

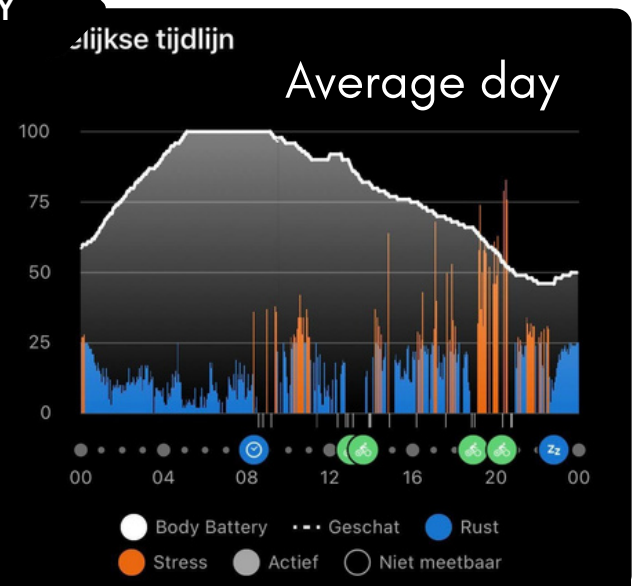


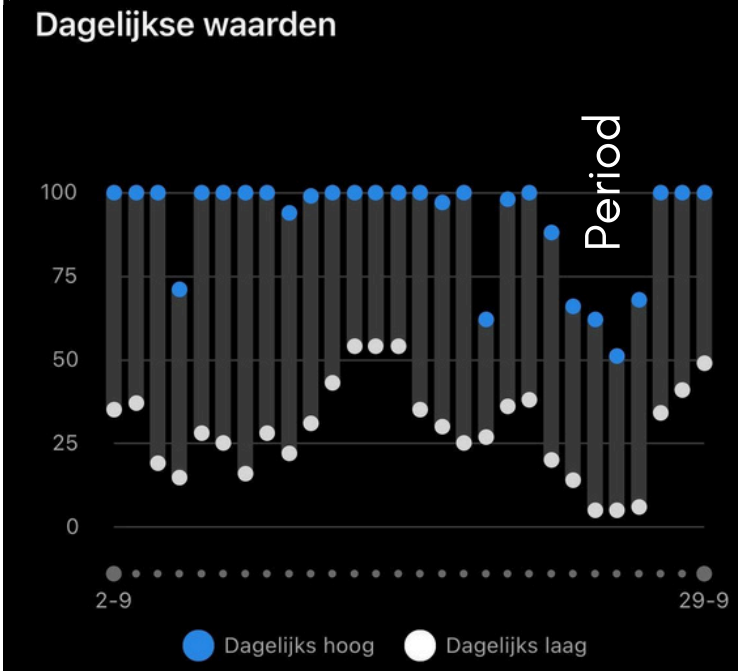
HEALTY

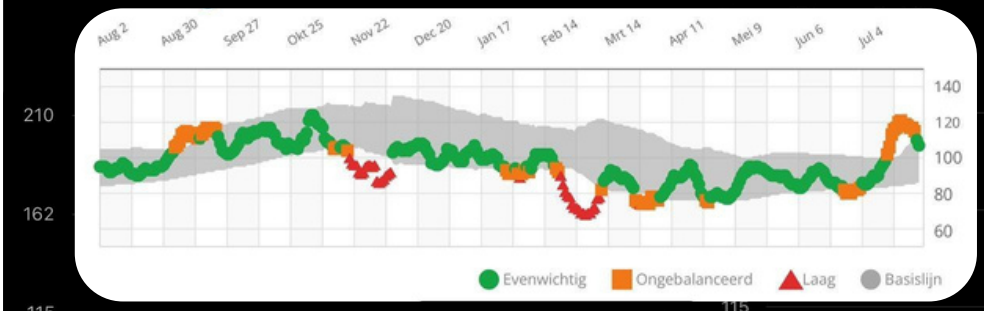
Data from a stable period of a healthy person

Woman, 27
Unable to work due to ASD and ADHD
Going through a good period of life
Volunteers 6 hours a week
Walks dogs 3-4 hours per day
Average steps per day 9,919

Garmin: Forerunner 255s







HRV year overview
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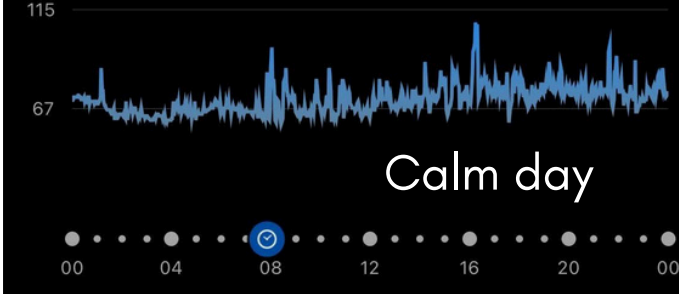


Calm day

Active day

62 bpm
In rust

109 bpm
Hoog

60 bpm
In rust

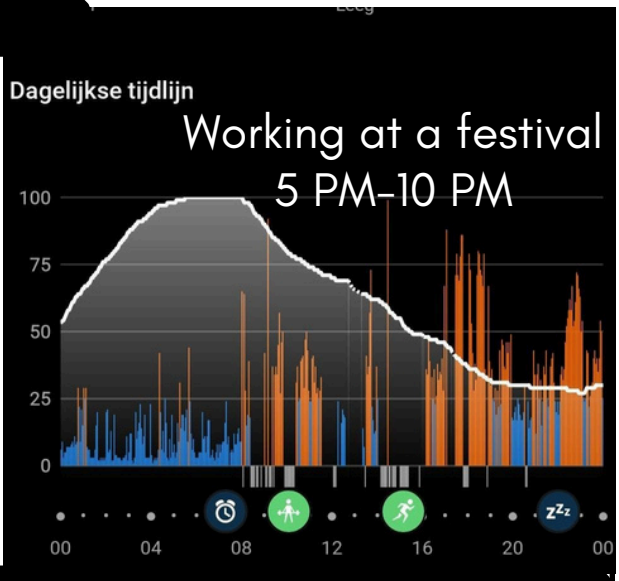
150 bpm
Hoog

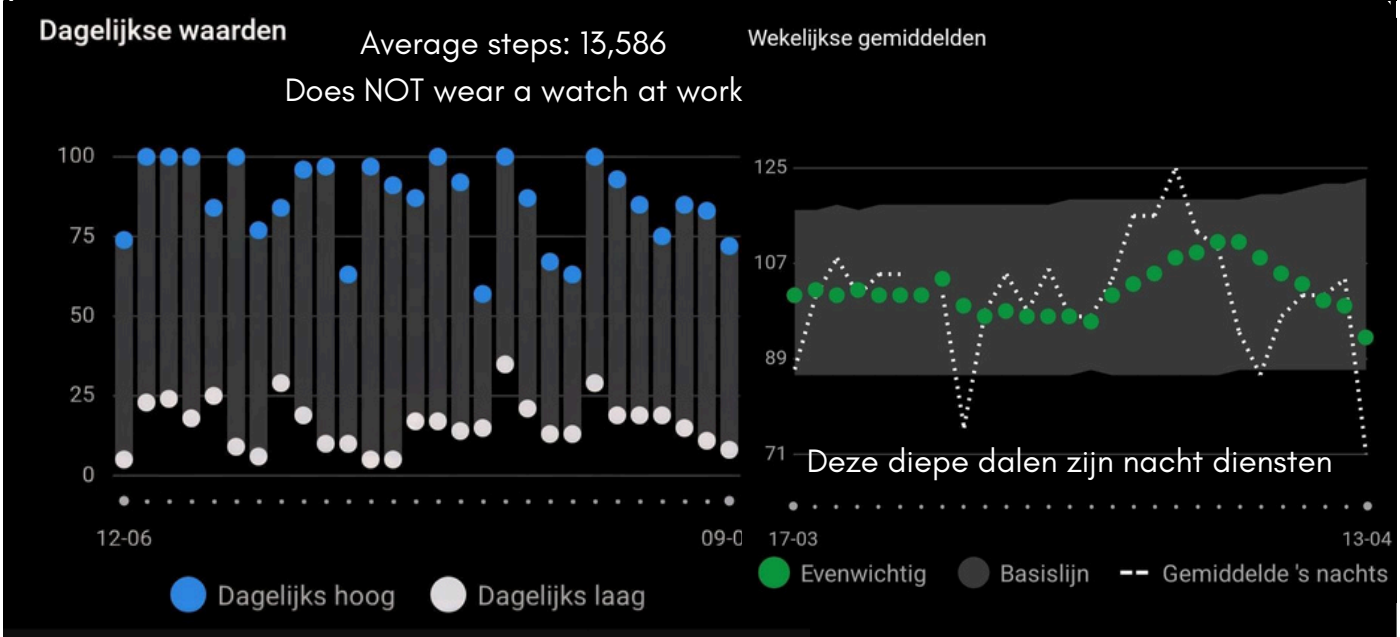
HEALTY

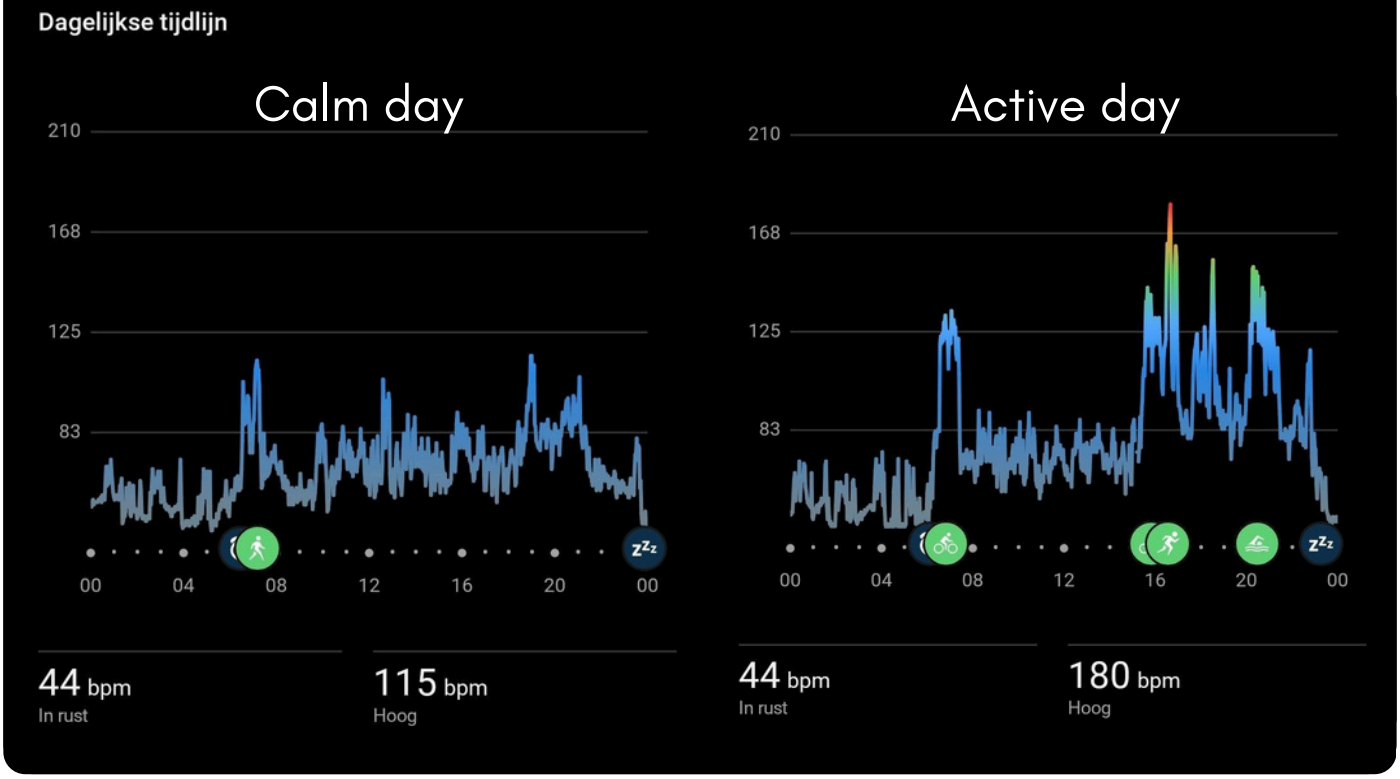
Data from a relatively **stable period of a healthy person**

Woman, 25 years old
Working as a nurse during this period, also working night shifts
Activities: Strength training, cycling, running, swimming, paddle tennis, and lots of walking

Garmin: Fenix 6 solar

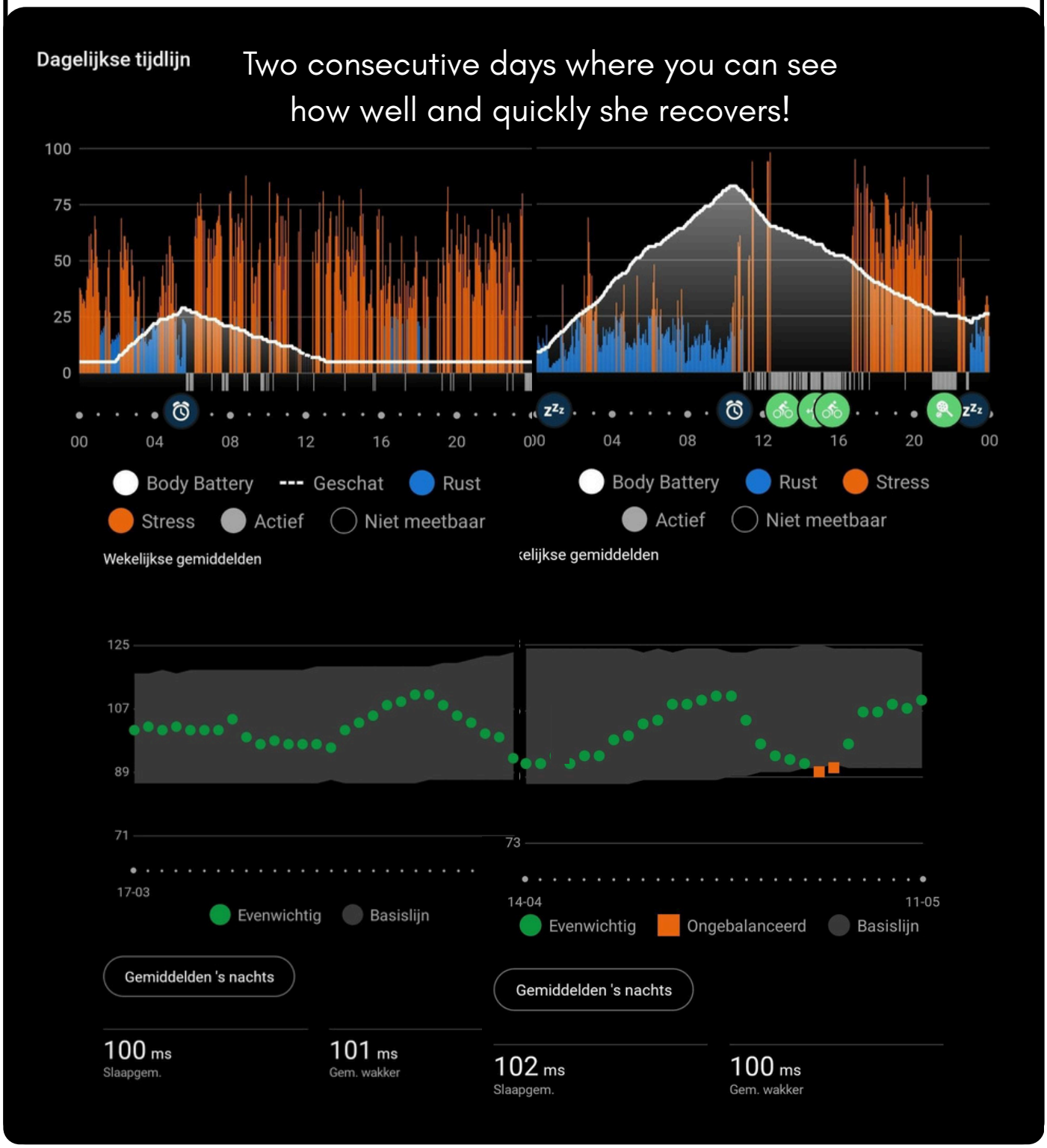






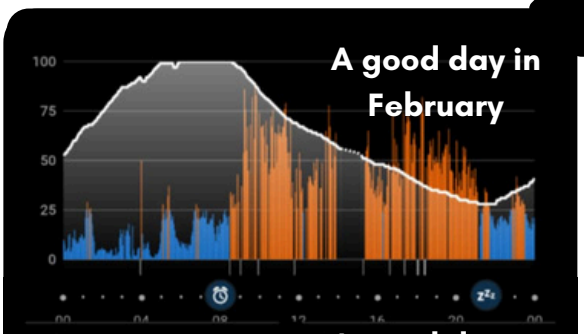
BONUS:

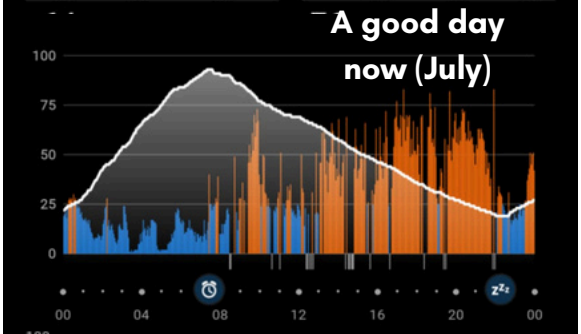
The previous measurements are from a more stable period when she worked as a nurse. She also shared her measurements from this more stressful period, when she worked as a nurse at a multi-day festival. In this measurement, she worked from 9:00 AM to 4:00 AM for the fourth day in a row. Afterward, she slept from 10:00 PM to 12:00 AM for two nights, allowing her to fully recharge.

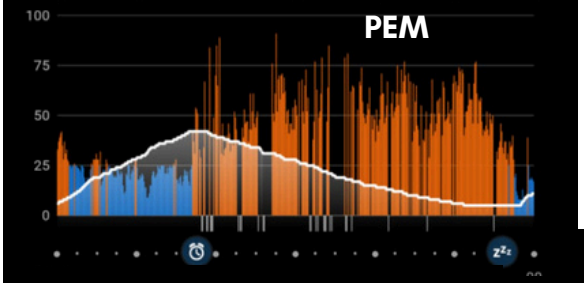


DATA FROM PEOPLE WITH PAIS

Curious what the data from other people with PAIS looks like? Look no further. Here it is!







Data from someone who is making progress with moderate ME/CVS

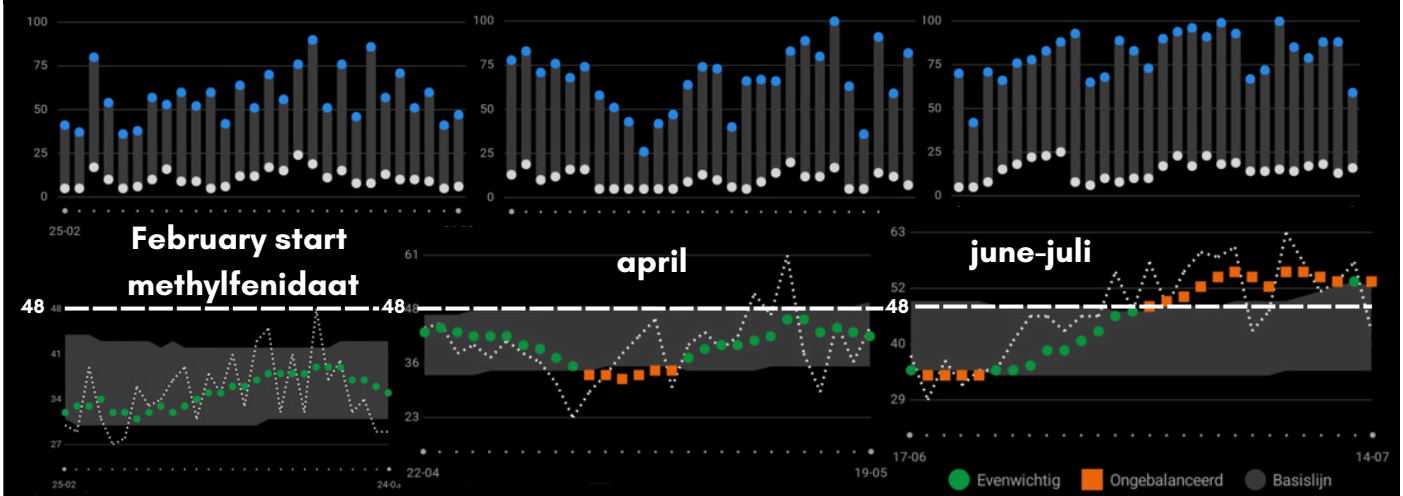
Woman, 34

Non-working, mother of a toddler

Childcare shared with partner and school/after-school care. Currently resting 1 to 2 hours a day while lying down. Otherwise, a lot of "hanging around" and a few chores around the house on good days.

Garmin: Vivoactive 5

Slight improvement for a few months now. Seems to be going from moderate to mild ME. She started occupational therapy last September and gave up a lot in the fall/winter to maintain a good pace (resting 4 to 6 hours per day while lying down). She achieved a stable baseline from there at the beginning of this year. She started methylphenidate in February and compression stockings in June. Both are helping her.



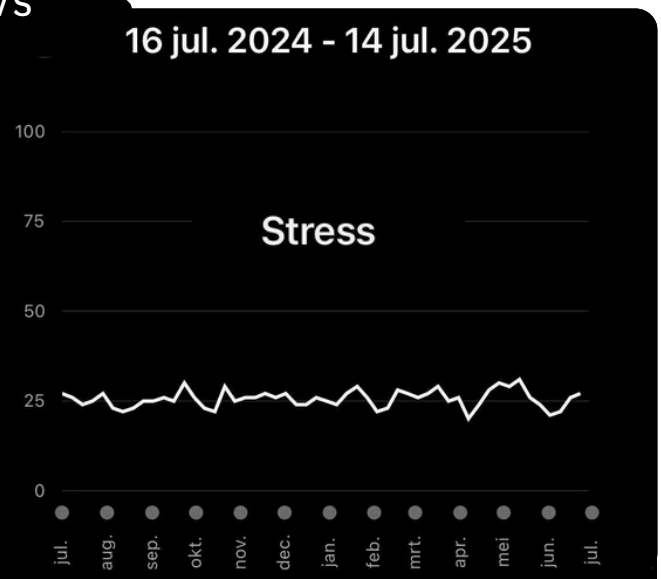
Her progress is more noticeable in her cycling distances than in her walking distances. Her stress has clearly decreased in the last two months, and she's been sleeping better for a month now.

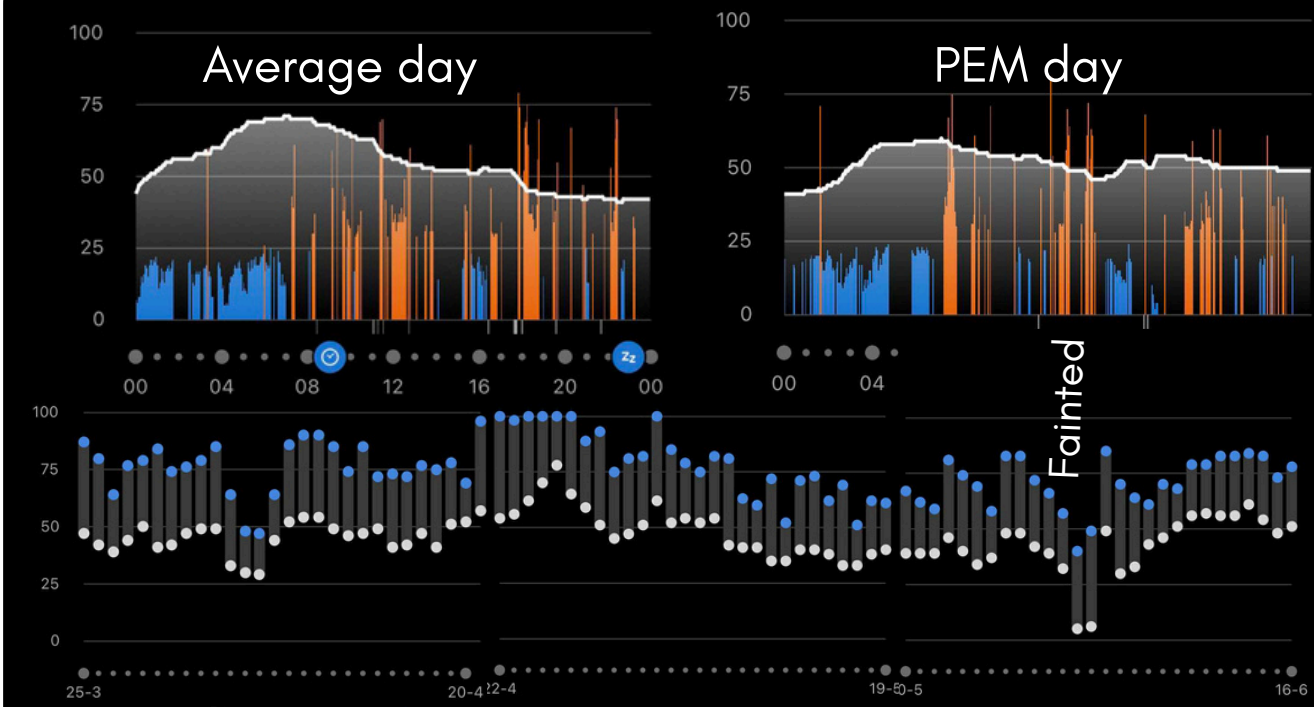
ME/CVS

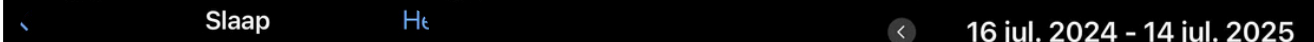
Data from a person with severe ME/CFS who intermittently improves and declines

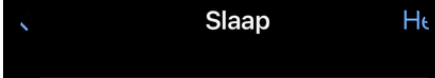
Woman, 49
Ill for 34 years, 2 children, 13 and 17
22 hours per day in bed. Bed upstairs and a bed downstairs
1140 steps average per day

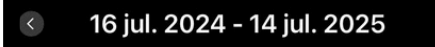
Garmin: Lily

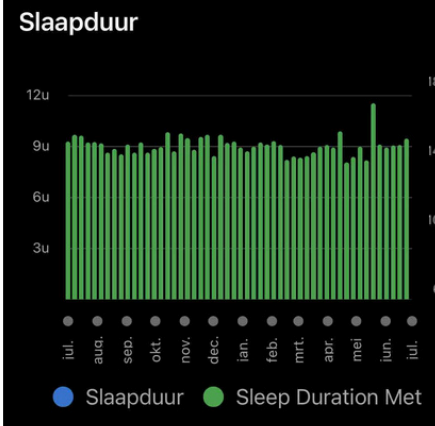




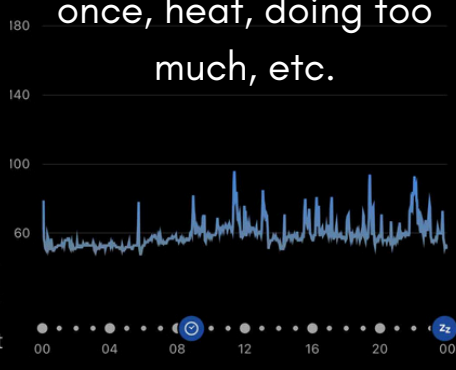


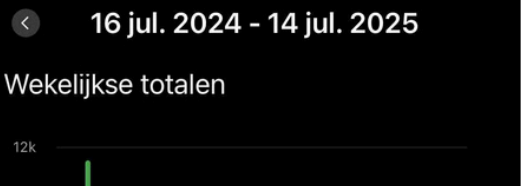






Waves in body battery are often things like washing hair, attempting to shower once, heat, doing too much, etc.





9u 3m
Gem. wekelijkse slaapduur

51 bpm
In rust

96 bpm
Hoog

415.090
Totaal stappen

298,7 km
Totale afstand

7.140
Gemiddelde per dag

7.982
Gemiddelde per week

ME/CVS

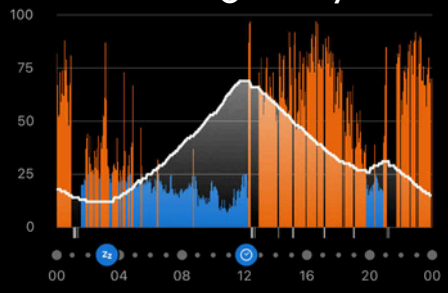
Data from someone with moderate to severe ME/CFS who intermittently progresses and declines

Woman, 38
Became ill as a child. She spends approximately 14 hours a day in bed. Otherwise, she is largely housebound, occasionally making short trips in an electric wheelchair. Average steps per day: 900-1000

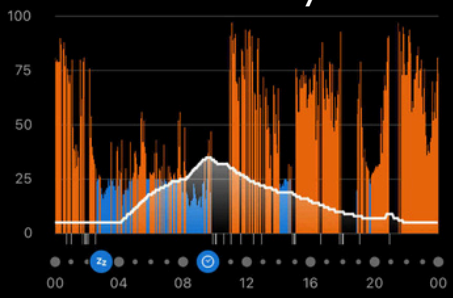
Garmin: Venu 2 Sq

I still do too many things on pure adrenaline, even though I know it's not good for me, but otherwise, I can't handle it mentally.

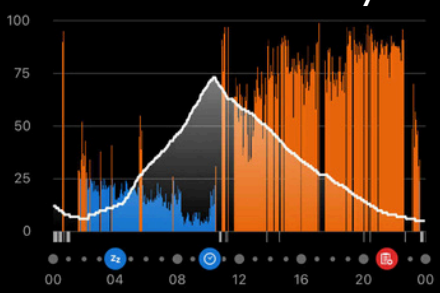
Average day



PEM day



Intense day

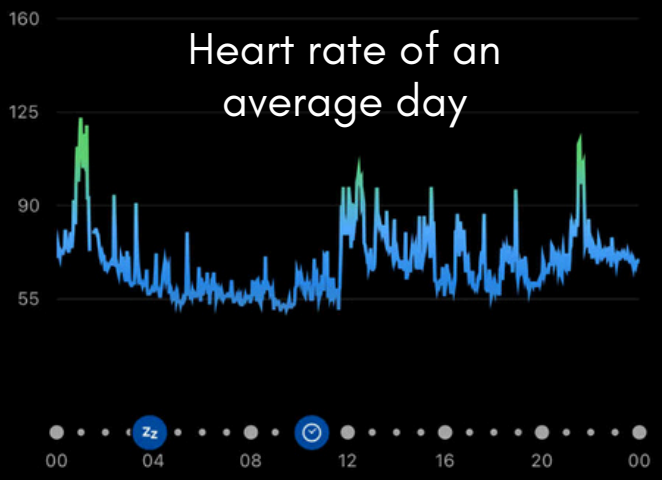


She only sees blue when she sleeps

Dagelijkse tijdlijn

She's taking POTS medication. Otherwise, her heart rate would go through the roof.

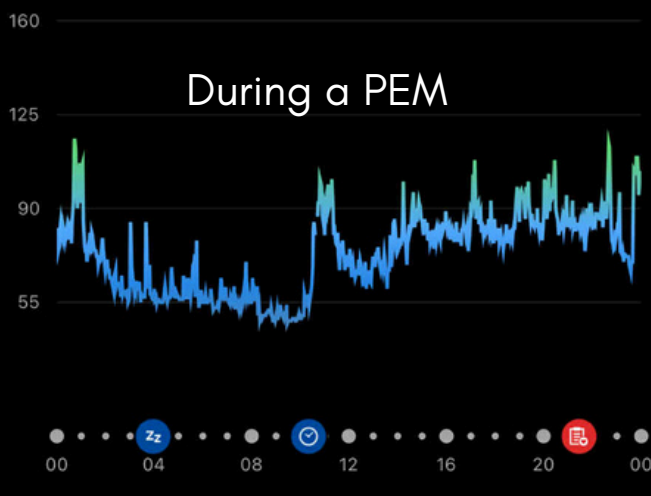
Heart rate of an average day



52 bpm
In rust

123 bpm
Hoog

During a PEM



48 bpm
In rust

116 bpm
Hoog

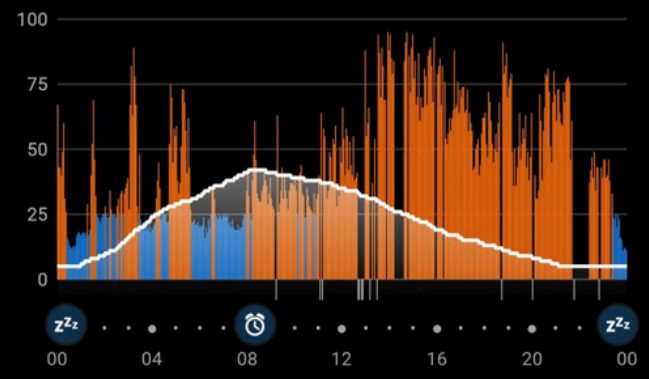
LONG COVID

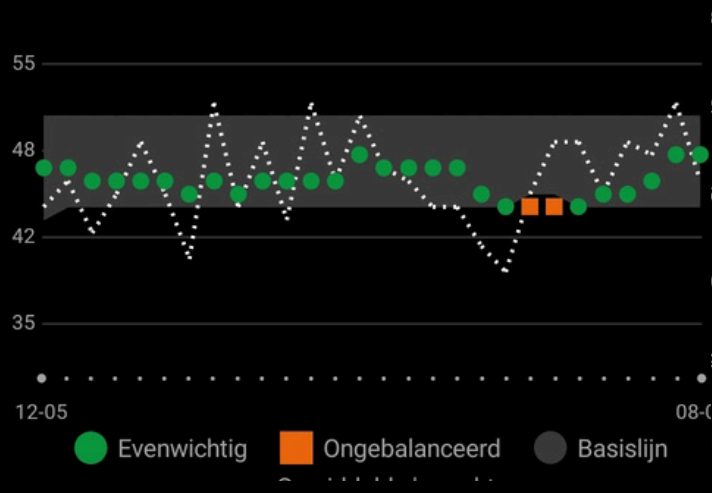
Data from someone with long covid who declines

Male, 36
Works between 2 and 4 hours per day
About 18 hours per day in bed
Average steps per day: 3164
He has gotten many new symptoms in the last 2 months. He is worsening but is still in denial about it.

Garmin: Venu 3

Average day



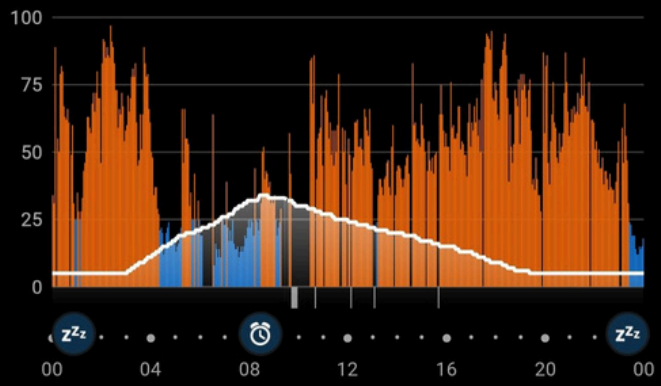


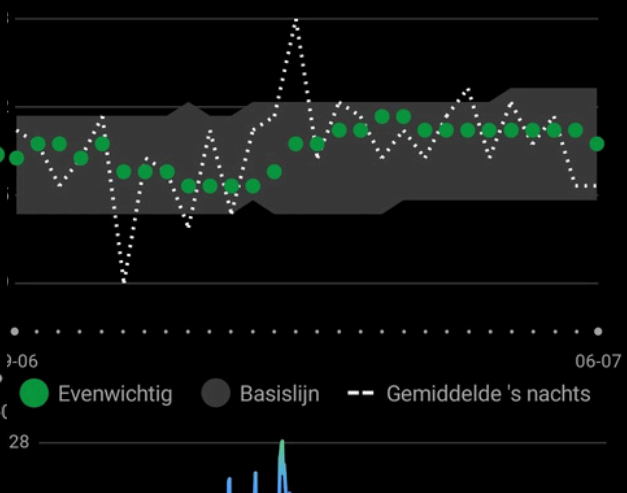
Calm day

52 bpm
In rust

111 bpm
Hoog

PEM day





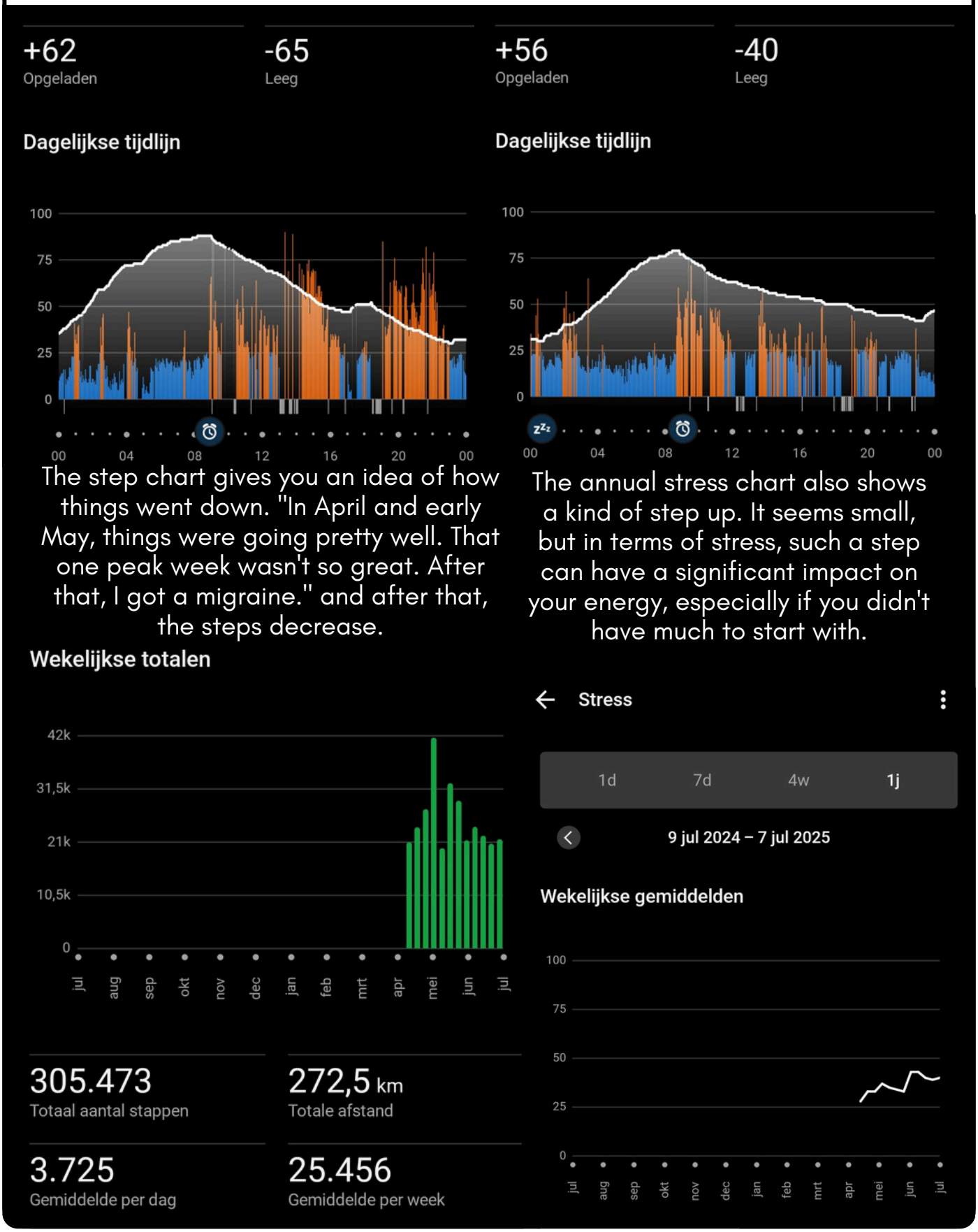
Active day

54 bpm
In rust

128 bpm
Hoog

Bonus:

After realizing his condition did actually get worse over the past two months, he looked up his body battery from before his decline. Here are two examples that are much better than his current days.



The step chart gives you an idea of how things went down. "In April and early May, things were going pretty well. That one peak week wasn't so great. After that, I got a migraine." and after that, the steps decrease.

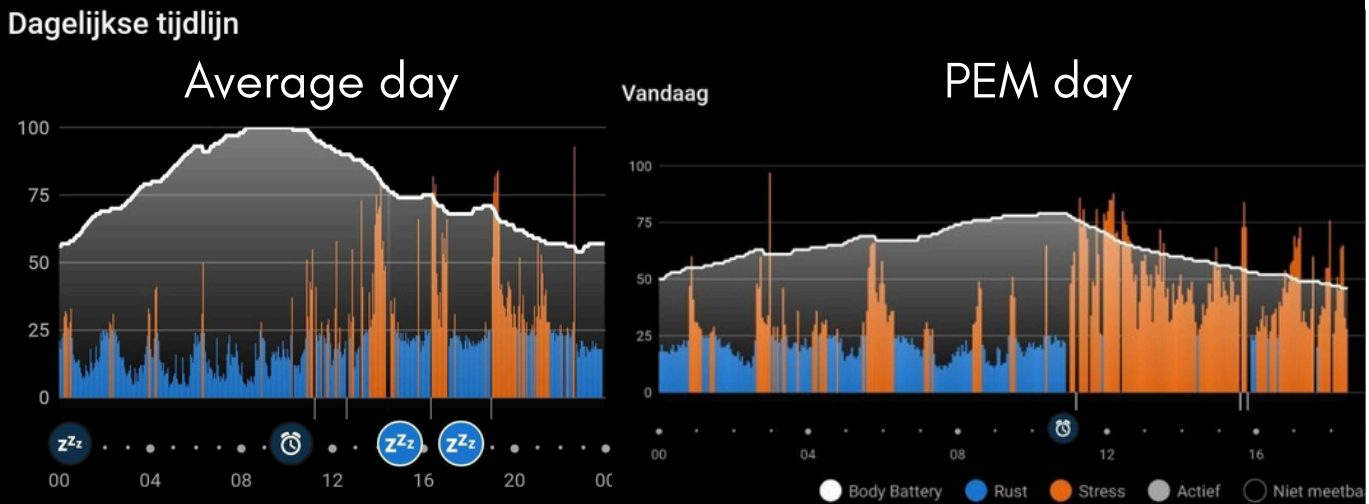
The annual stress chart also shows a kind of step up. It seems small, but in terms of stress, such a step can have a significant impact on your energy, especially if you didn't have much to start with.

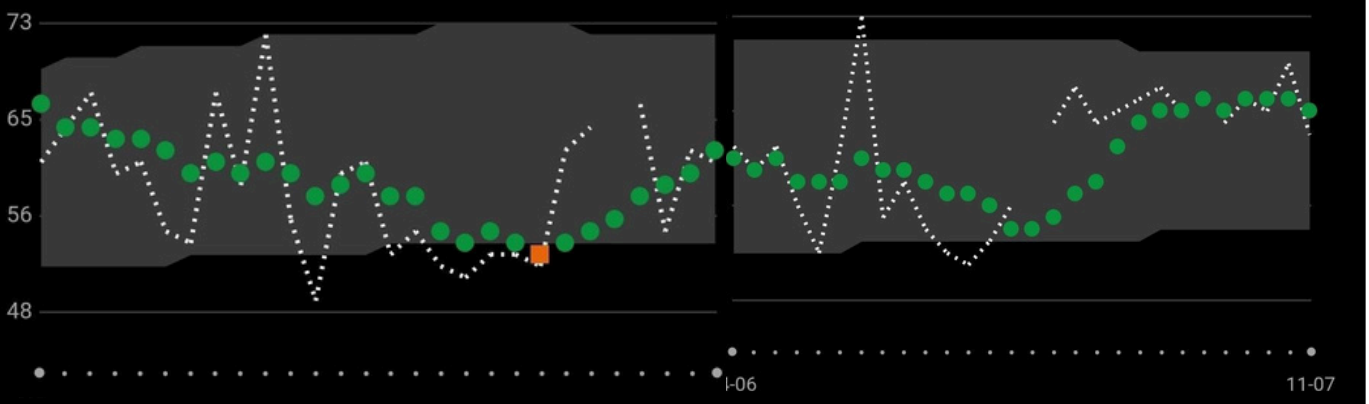
LONG COVID

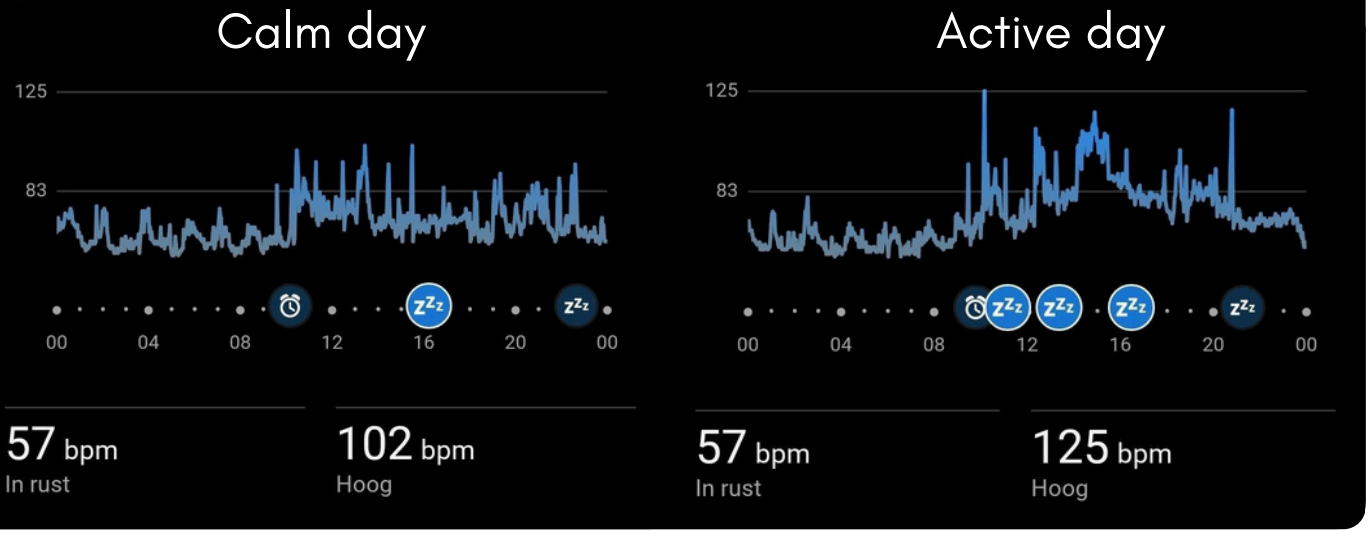
Data from a stable period of someone with long covid

Woman, 30
Moderate-severe
About 16-17 hours per day in bed
Spends the rest of the time with feet up on the couch
Average steps per day: 470

Garmin: Venu 3s





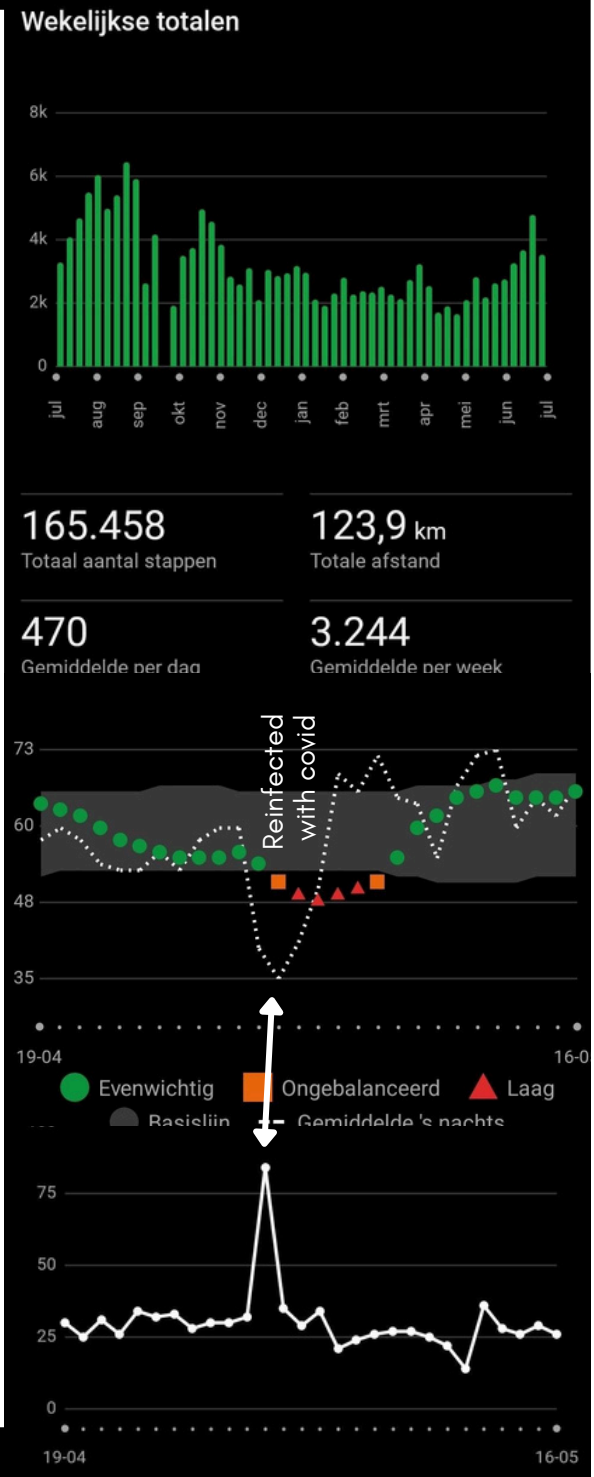


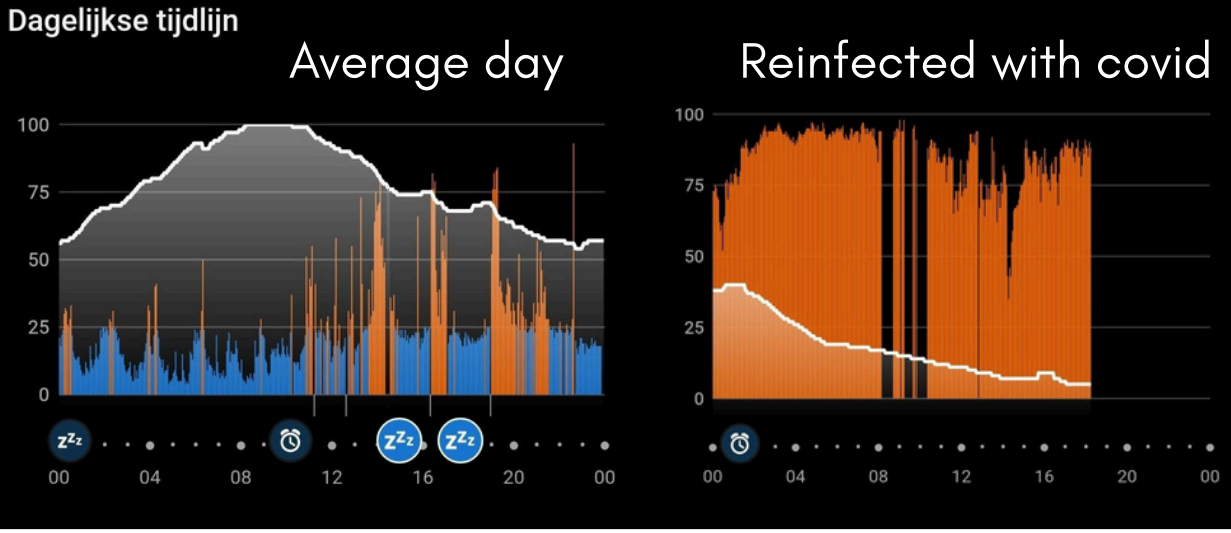
Bonus:

I think I'm forced to pace myself this well. My body doesn't recover well from PEM, so I have to be very careful to avoid further deterioration (I often don't fully recover from even relatively mild PEM,). As soon as I've been free of PEM for a longer period, I start to "improve" in small increments.

What helps me is generally sticking to a fixed schedule, where I can choose one activity that I enjoy each day. Over the past few years, I've also learned to be much kinder to myself and to deal with the frustration and sadness when my body tells me to stop, instead of getting so angry that I keep going and pushing myself beyond my limits (haha).

It also helps a lot that I'm so well cared for, which allows me to focus on the enjoyable things in life instead of just trying to keep myself alive, and that helps enormously in keeping overexerting to a minimum.



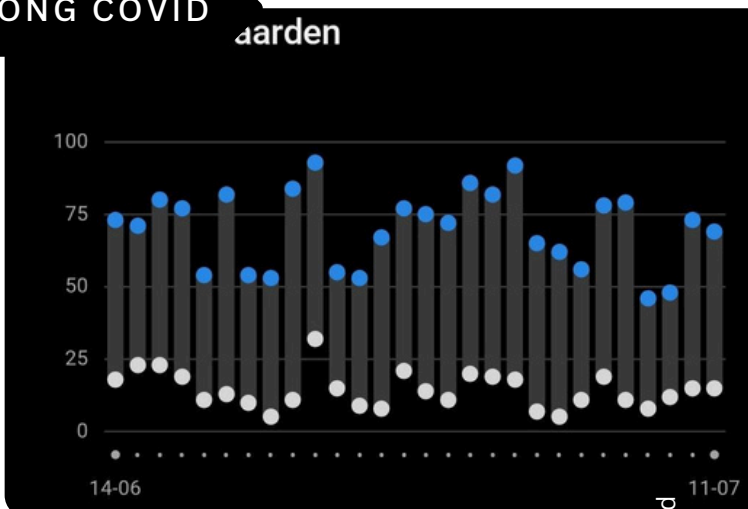


LONG COVID

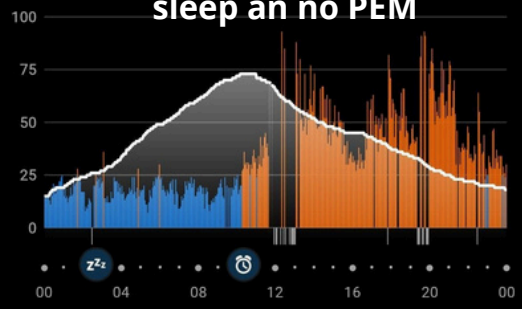
Data from someone with moderate long covid who intermittently progresses and declines

Average steps per day: 3215
Calls herself a push-crasher who isn't good at pacing.

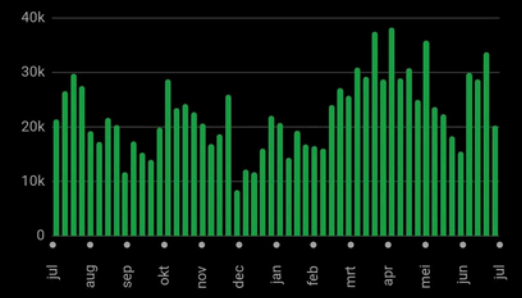
Garmin: Vivoactive 5



A normal day with good sleep an no PEM

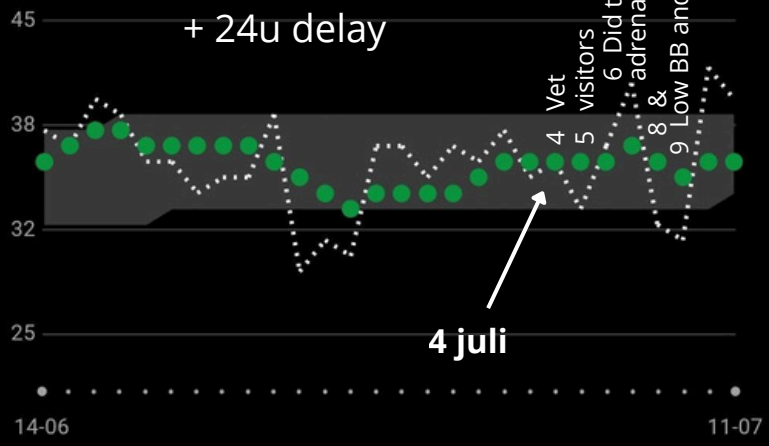


Wekelijkse totalen

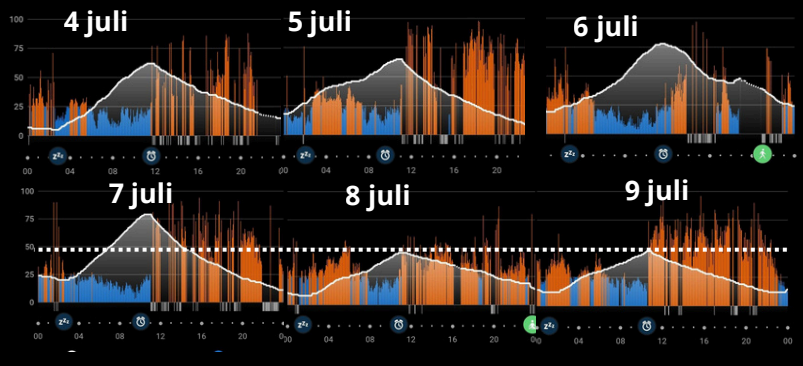


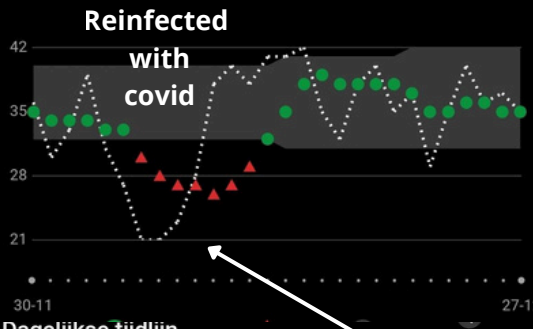
Wekelijkse gemiddelden

PEM after 3 days of overdoing it + 24u delay



First day was stressful. Rushed to the vet. This resulted in extra stress in the night. The day after she had visitors. The 6th she cleaned on adrenaline/fake energy and 24 hours later she was exhausted/PEM

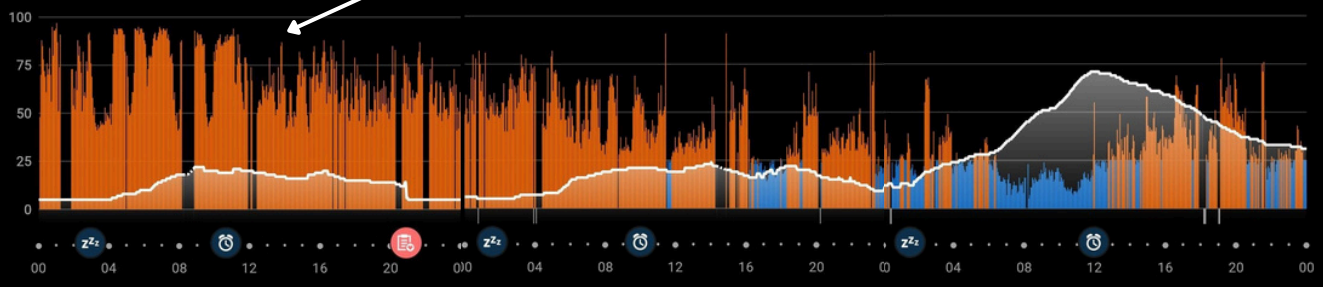




Dagelijkse tijdlijn

maandag 9 dec 2024 dinsdag 10 dec 2024

Reinfected with covid



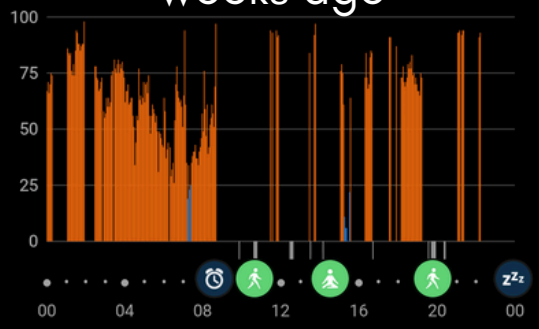
Data from someone with long covid who is progressing

Woman, 27

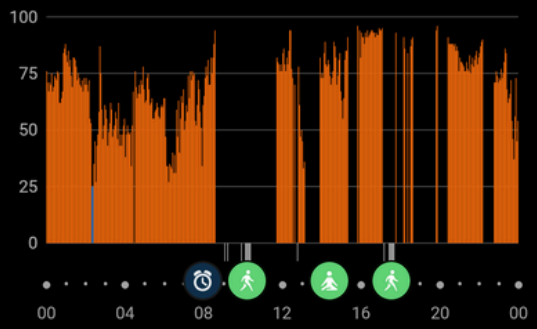
Buying the watch was exactly the boost she needed to make significant progress. After a period of recovery, she finds her body is suddenly more relaxed. It's as if something "clicked." This is also reflected in her suddenly higher sleep score and her body battery, which has been increasing in recent days. NOTE: Her maximum heart rate is 150, which may affect her data. She's doing her utmost to avoid PEMs. She's doing quite well. She went from being couch-bound (sometimes bed-bound) and struggling with self-care to being able to walk 18 minutes a day, play cozy games, attend appointments, or shower. Vacuuming and lifting heavy objects are still not possible.

Garmin: Vivosmart 5

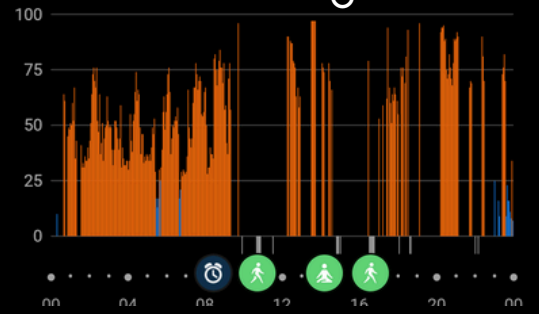
Average day from 8 weeks ago



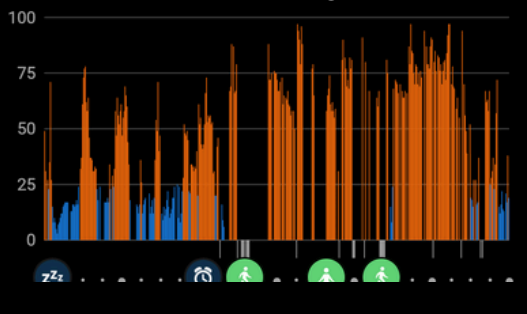
A bad day



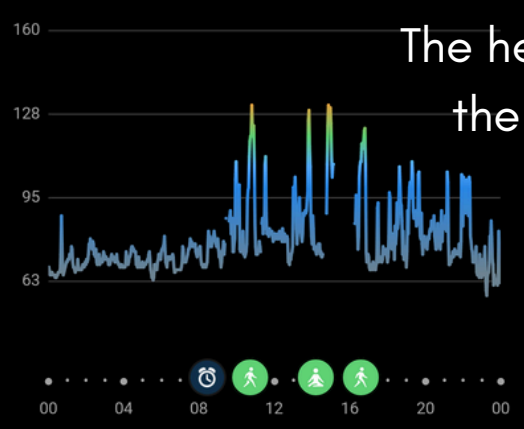
Before something "clicked"



After something "clicked"

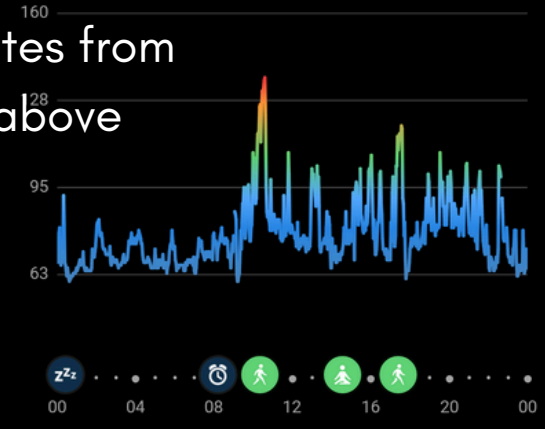


The heart rates from the days above



65 bpm
In rust

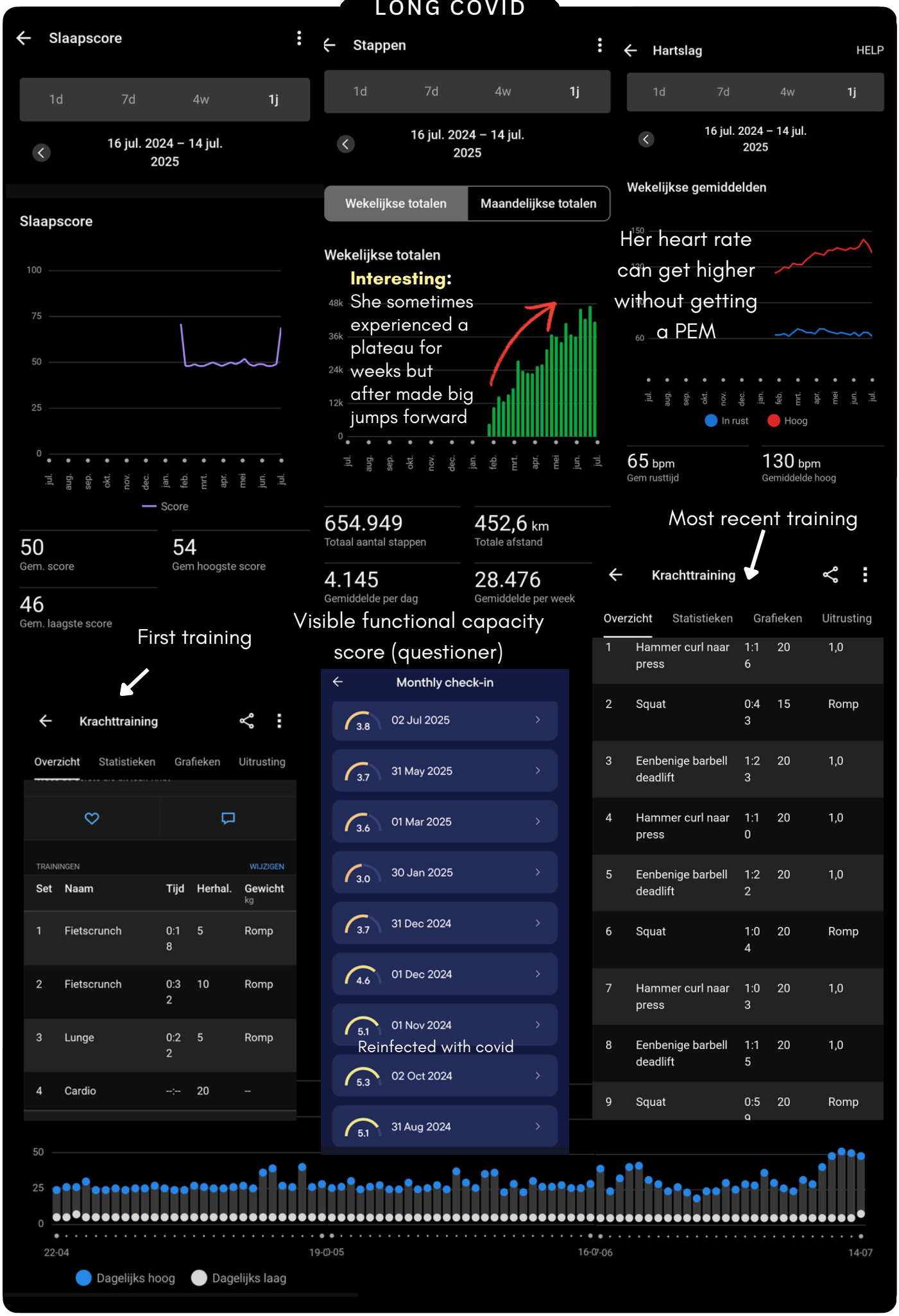
131 bpm
Hoog



62 bpm
In rust

136 bpm
Hoog

LONG COVID

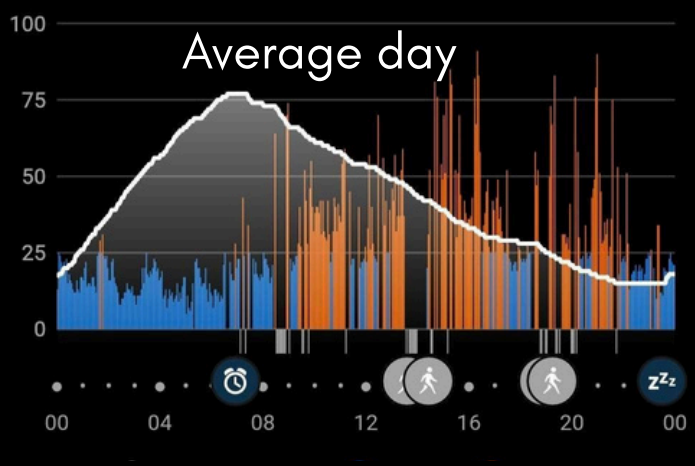

Slaapscore
1d 7d 4w 1j
16 jul. 2024 – 14 jul. 2025
Slaapscore
Score
50
Gem. score
54
Gem hoogste score
46
Gem. laagste score
Stappen
1d 7d 4w 1j
16 jul. 2024 – 14 jul. 2025
Wekelijkse totalen
Maandelijkse totalen
Wekelijkse totalen
Interesting:
She sometimes experienced a plateau for weeks but after made big jumps forward
654.949
Totaal aantal stappen
452,6 km
Totale afstand
4.145
Gemiddelde per dag
28.476
Gemiddelde per week
Hartslag
HELP
1d 7d 4w 1j
16 jul. 2024 – 14 jul. 2025
Wekelijkse gemiddelden
Her heart rate can get higher without getting a PEM
In rust
Hoog
65 bpm
Gem rusttijd
130 bpm
Gemiddelde hoog
Most recent training
First training
Visible functional capacity score (questioner)
Krachttraining
Overzicht Statistieken Grafieken Uitrusting
TRAININGEN
WIJZIGEN
Set Naam Tijd Herhal. Gewicht kg
1 Fietscrunch 0:18 5 Romp
2 Fietscrunch 0:32 10 Romp
3 Lunge 0:22 5 Romp
4 Cardio --:-- 20 --
Monthly check-in
3.8 02 Jul 2025
3.7 31 May 2025
3.6 01 Mar 2025
3.0 30 Jan 2025
3.7 31 Dec 2024
4.6 01 Dec 2024
5.1 01 Nov 2024
Reinfected with covid
5.3 02 Oct 2024
5.1 31 Aug 2024
Krachttraining
Overzicht Statistieken Grafieken Uitrusting
1 Hammer curl naar press 1:16 20 1,0
2 Squat 0:43 15 Romp
3 Eenbenige barbell deadlift 1:23 20 1,0
4 Hammer curl naar press 1:10 20 1,0
5 Eenbenige barbell deadlift 1:22 20 1,0
6 Squat 1:04 20 Romp
7 Hammer curl naar press 1:03 20 1,0
8 Eenbenige barbell deadlift 1:15 20 1,0
9 Squat 0:59 20 Romp
22-04
19-0-05
16-07-06
14-07
Dagelijks hoog
Dagelijks laag

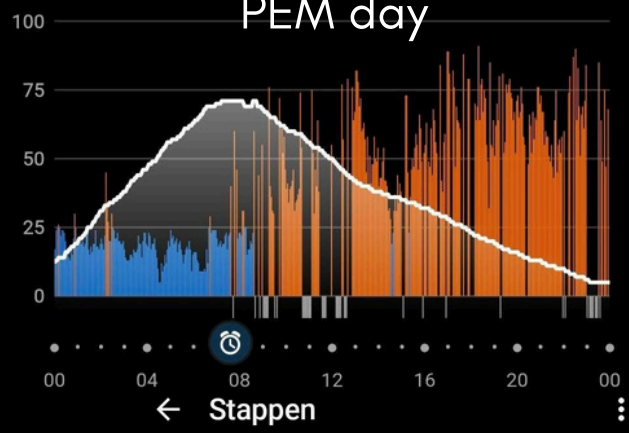
LONG COVID

Data from someone with light long covid who intermittently progresses and declines

Woman
Two children over 10 with husband
Average steps per day: 8896

"I think my readings would improve if I did significantly less. So it's not that I can't do it, but it does cost me something."





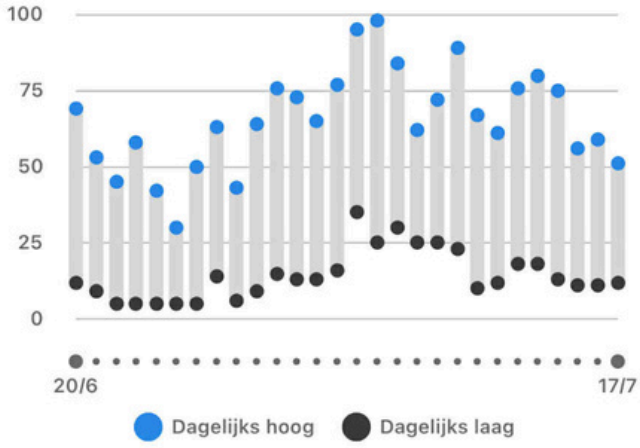
Visible app
HRV
and resting HR

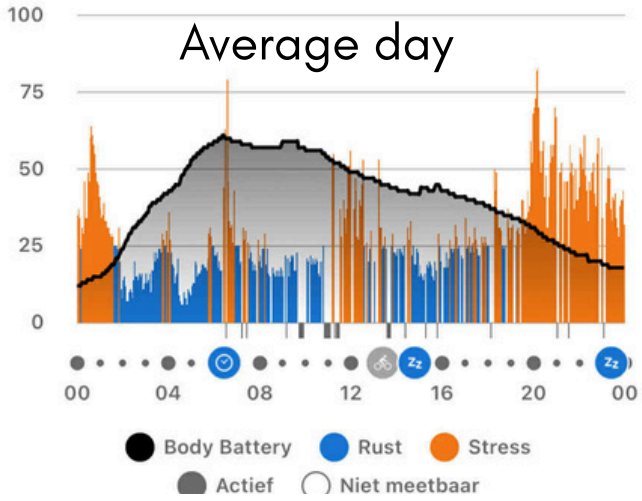
Visible app
Stability score
and resting HR

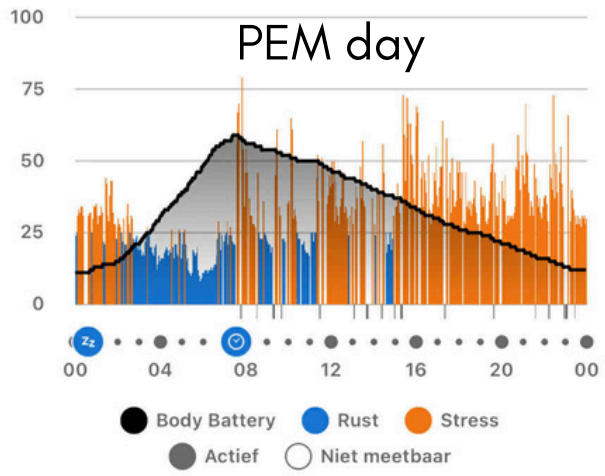
Data from someone with long covid who declines

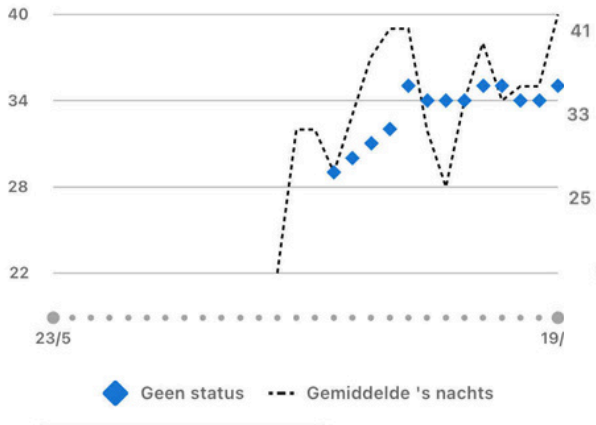
Woman, 57
Housebound
Average steps per day: 2954
Walks the dogs 500m
Declining every year

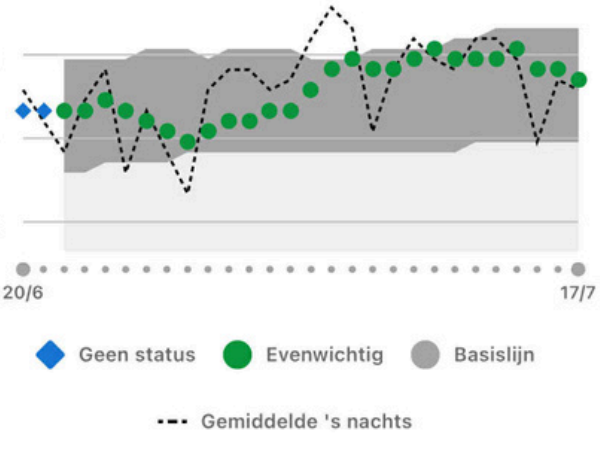
Garmin: Venu 3s











PACING CHARTS

These charts are helpful for comparing your symptoms, feelings, and smartwatch data. This way, you can more quickly determine which data is normal for you and which is unusual. The nutrition chart helps you determine whether your diet might also be causing symptoms. You will see the dutch Activiteitenweger that I freely translated to the activity scale. An occupational therapist teaches us dutchies how to use it. I was not able to find an English explanation. I will do my best to explain it here:

Activity scale explanation

First you write down everything you do during the day at the time you do it. To make scoring the activities easier, try to do things in increments of 15-30-45 or 60 minutes.

You can for example decide to score per 15 minutes but to keep it simple, stick to the scoring used in the example. (above the chart on the right)

Make a list of activities you consider rest, light, mild or heavy if done for an hour (if you score per hour). For example drawing may feel like rest if done for a few minutes but if you do it for an hour it doesn't feel like rest anymore. Stick to your list and not how an activity feels in the moment.

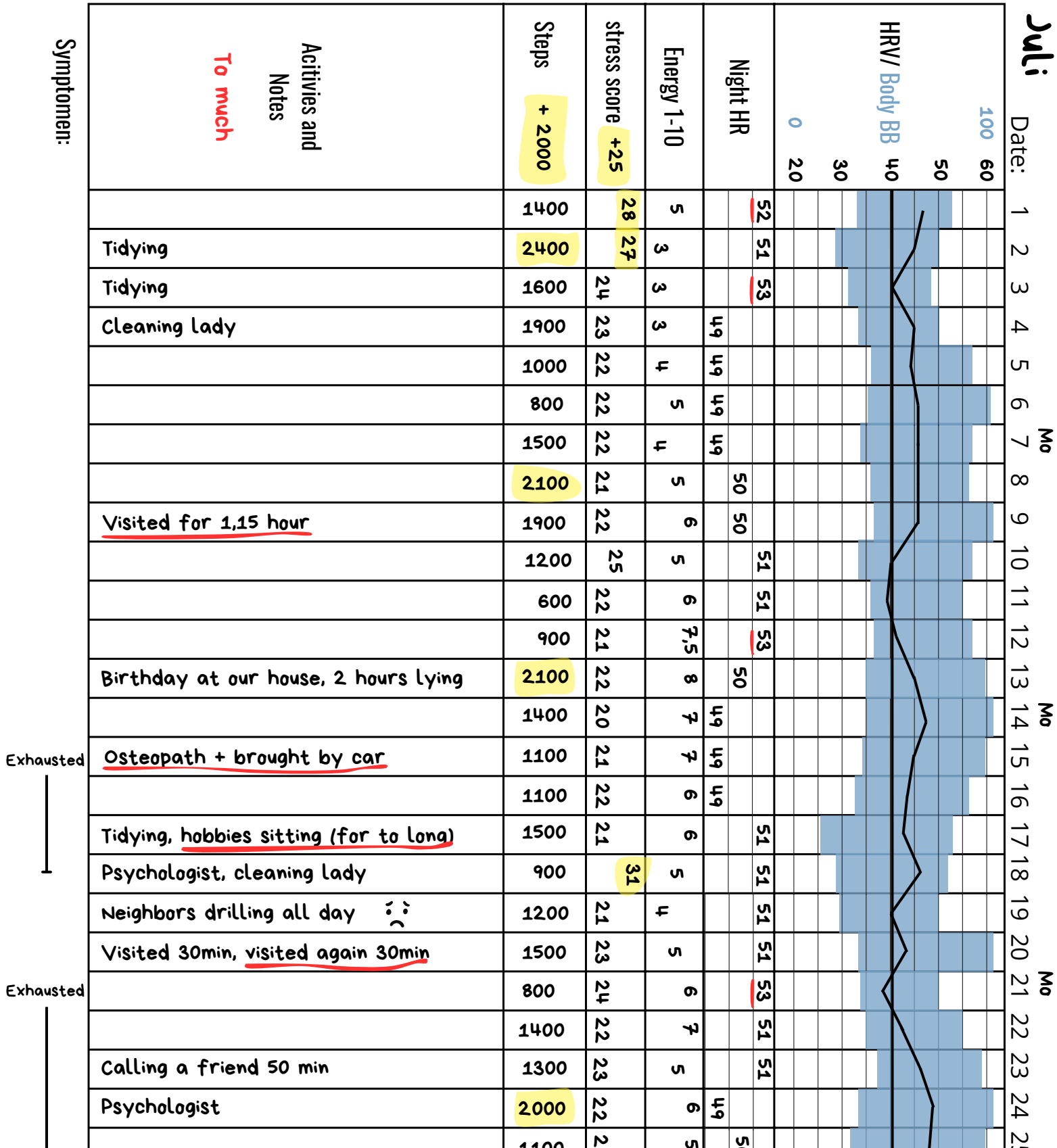
After a few days you can determine what a good amount of points is for you to stay below. You can share your days with an occupational therapist or with a group like a Facebook group for people with ME or long covid. Other people can help you see where you may be overdoing activities, where you need more rest or how you can otherwise adjust your activities to help you pace better. This tool should help you know how many activities you can do and for how long. You don't need to use the charts forever.

Date:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
HRV/ Body BB																															
Night HR																															
Energy 1-10																															
stress score																															
Steps																															
Acitivies and Notes																															

Symptoms:

Realizations

I started in the middle of this month, so I could immediately fill in two weeks. After staring at this data for a while, I could tell that my resting heart rate is 49 when I'm doing well. I also see that I experience two dips in my HRV when I've taken more than 2,000 steps. When my HRV reaches 40, I don't think I have PEM (I haven't had any full on PEMs this month!), but things aren't going well either. I find that I don't schedule many recovery days between visits and other tiring activities. Furthermore, I find my symptoms quite stable. After learning these things about myself, I am able to realize much more quickly that I need to take it easier. I also know better what to pay attention to so I don't push myself too hard. That's great!



Date:

Adjusted activity scale

Activity score **per**
Rest: Light: Moderate: Heavy:

Time	Activities	Heart rate	score
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			

Total:

A recovery day

With an occupational therapist I had already determined that staying below 22 points would be good for me. On this day that went well. I wanted to recover from a high resting heart rate and a drop in HRV after having too many visits (see previous graph). I alternated moderate and light activities well. I even rested without stimulation, something I don't enjoy doing. Due to the low air pressure during the storm, I also fell asleep for an hour. I'm very satisfied with this day. The next day, my HRV and resting heart rate were better.

A not so great day but not in a PEM

Date: 21-07-2025 Laure Wiggers

Activity score **per Hour**

Rest: 0 Light: 1 Moderate: 2 Heavy: 3

Adjusted activity scale

Rest
Rest
Without
stimulation

Light
Lying
Screen Time

Moderate
Sitting

Heavy
Standing

Time	Activities	Heart rate	score
6			
7 :30	L awake, lying slightly more upright, screen time	63	0,5
8 :00	Z getting dressed and so on	74	1,5
:30	L lying downstairs + screen time	65	0,5
9 :00	M breakfast - sitting	80	0,5
:15	L liying down + screen time	61	0,75
10		55	1
11 :00	M second breakfast + loading and unloading dishwasher sitting	81	0,5
:15	R Lying rest with earplugs and eye mask	53	0
12 :00	M Record a video explanation for someone	70	0,5
:15	R Lying rest with earplugs and eye mask	59	0
13 :00	L lying down + screen time	60	0,25
:15	M Lunch	80	1
:45	L lying down + screen time	60	0,25
14			1
15			0,75
:45	M ordering groceries (sitting and walking around)	74	0,5
16 :15	L lying down, chatting and cuddling with boyfriend	60	0,5
:30	M fruit snack and sitting chat	59	0,25
17 :00	L lying down + screen time	51	0,5
:30	M dinner	81	1,5
18 :15	L lying down + screen time	62	1,5
19 :00	R Falling asleep due to low air pressure/rain storm 1006mbar	61	0
20 :00	L lying down + screen time	59	1
21 :00	L Gaming while lying down	55	1,25
22 :15	Z getting ready for bed	52	1,5
:45	In bed		

Total:
17,25

Nutrition & symptom chart

Time	Heart rate	Food	Symptoms
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			

Pizza

On this day, I ate a slice of pizza in the evening because my boyfriend's pizza smelled really good. Pretty soon, I bloat and get a stomachache. This way it's pretty clear what caused the symptoms, but you can also experience symptoms 24 or even 48 hours later. For example, the next evening, I had incredibly itchy lower legs for fifteen minutes. For me, that's a symptom of MCAS. I didn't know before that a slice of pizza could trigger this reaction.

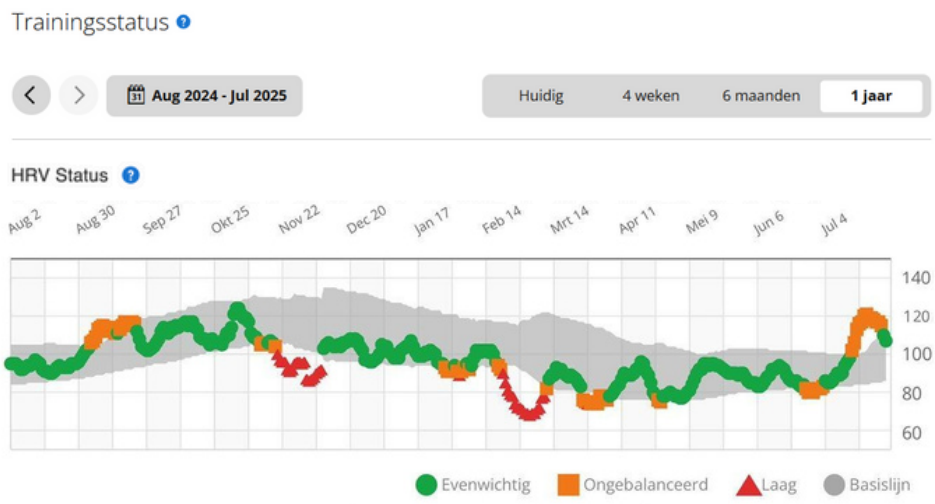
Nutrition & symptom chart

Time	Heart rate	Food	Symptoms
6			
7			
8:00	59	SPeanuts, rice, coconut milk, galangal (a spice) chickpeas, smoked tofu	
9	60		9:25 Belly gurgling
10			
11			
12:30	56	Breakfast + peanuts + prawn crackers house brand	
13			
14			
15			
16:03	63	blueberries, 2 pieces of pineapple Frozen ->	16:14 I was cold
17:11	54		
18:30	56	Cavalo nero, spinach, pumpkin, garlic, rice, paprika, Cooking fat (flower farm), chickpeas	
19			
20:33	56	Pizza point -> WHEAT	20:50 Uncomfortable
21	57		21:15 bloating
22			belly ache nauseous

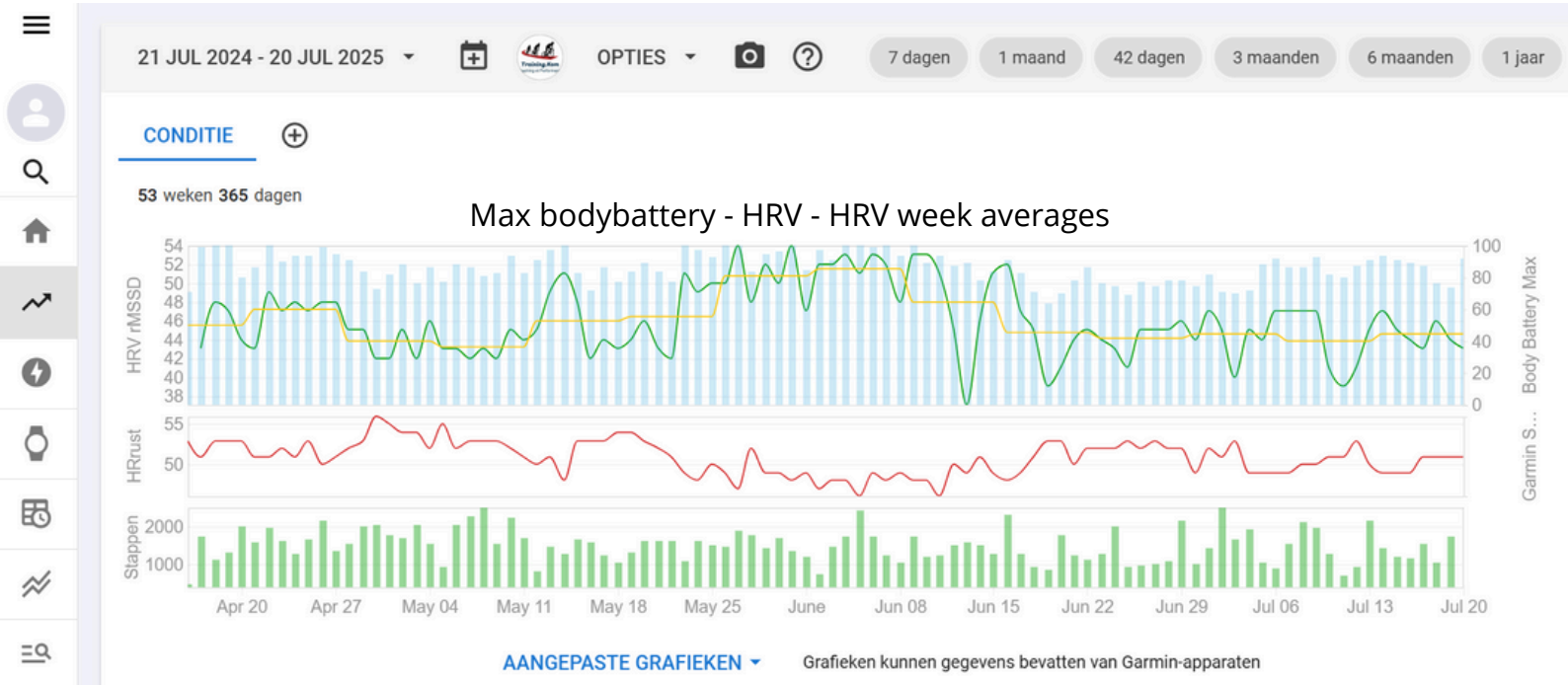
YEAR OVERVIEW CHART

I've found two ways to view your data in a yearly graph. The first, via the Garmin website, only works with watches that also provide training status, such as the Forerunner series.

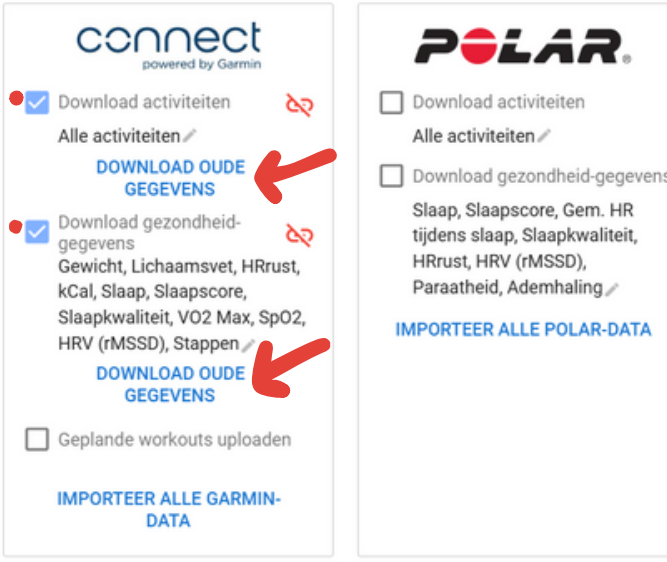
To do this, log in to the Garmin Connect website. Then click on Reports > All Activities > Training Status > 1 Year



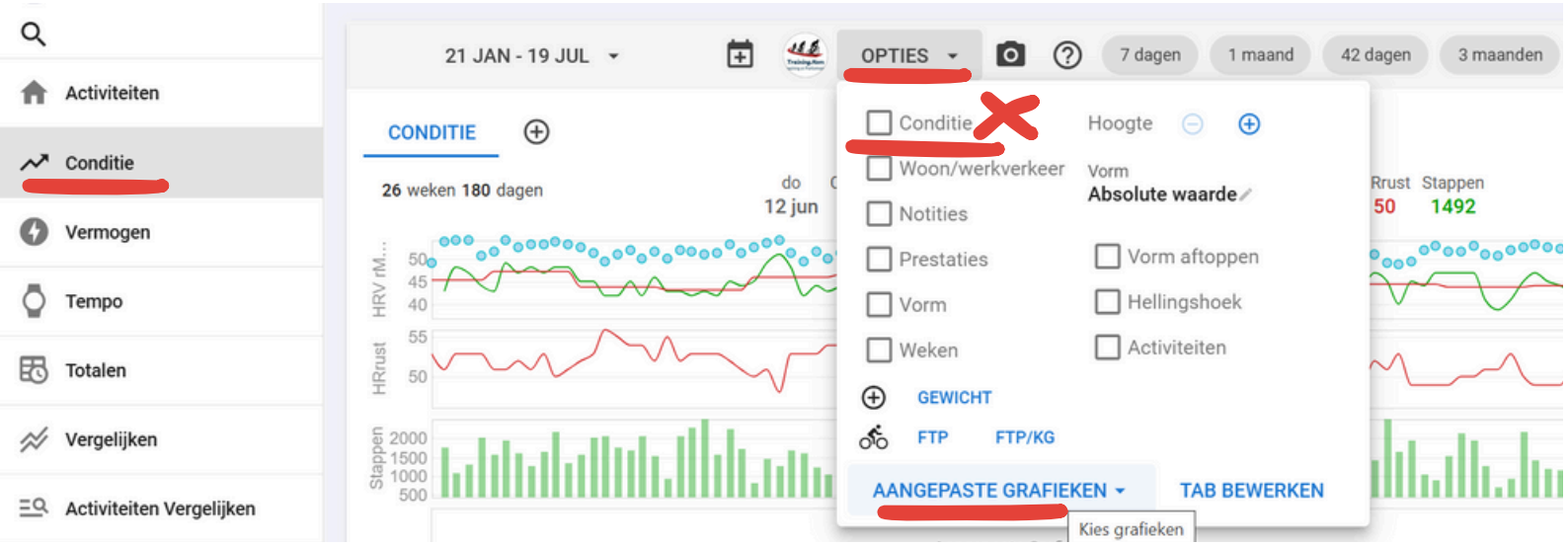
An option that everyone should have access to is the website **https://intervals.icu/**. You create an account there. Then, link your Garmin account using the connect icon.



Upload your Garmin data in Settings. Scroll down until you see the connect option and click the two download options.



Optional
Add body battery to the graphs
Activities → Options → Health → pencil icon at the end of the text → Fields → Add body battery min and body battery max and click OK.



Creating Charts
Now you can go to Fitness. Then click on 1 year. If you don't see it, collapse the menu.
Options > Custom Charts > Add Chart

After clicking "Add Graph," you can select what you want to see in the graph, including whether you want it displayed as dots or lines, and so on. These are my settings for the graph showing HRV, max body battery, and my weekly HRV average.

EXAMPLE WATCHFACE SETTINGS

PORTAL - GB - ON THE GARMIN VENU 3S

These are the settings on the Portal - GB watchface to be able to see all the data I need at a glance.

Portal - GB

GreenBlack

1K+ | 4.8★(107) | Watch face

Instellingen

Instellingen

SLA

Theme
Don't override Theme

Presets (Save/Load your settings
Select to Load/Save presets

Face Style
Default: Separators at 12, 2, 4, 6, 8, 10

Top Section Style
3 Fields + top

Bottom Section Style
Graph/Chart + bottom

Time Format (Time)
1900/0600

TOUCH SHORTCUTS

Enable Touch (hold 3 seconds, PRO only) [*]

Center Left (Hour) Touch Shortcut [*]
Do Nothing

Center Right (Minute) Touch Shortcut [*]
Do Nothing

COLORS

Background Color
0. Black

Radial Separator Lines Color
42. Light Gray

Center Field Separator Lines Color
42. Light Gray

Time Hour Color
63. White

Time Hour Color 2
63. White

Time Minute Color
63. White

Time Minute Color 2
63. White

Time Divider Color
63. White

Use Gradient for time

Gradient Quality (higher quality = more battery usage)
Good (4px, default)

Radial Text Color
63. White

Text Color
63. White

Label Color
42. Light Gray

Chart/Graph Color
63. White

Progress bar Color 1
63. White

Progress bar Color 2
63. White

Progress bar Color unfilled
21. Dark Gray

FONTS

Hour / Divider Font
Russo Outlined - Medium

Hour Font AOD (always on display)
Russo Outlined - Medium

Hour Font Size
150

Hour font space top (100 = center, less = up, more = down)
100

Hour font spacing (50 = center, less = closer, more = farther)
50

Divider offset (100 = center, less = up, more = down)
100

Center time when using no leading zero (otherwise divider is always centered)

Minute Font
Russo - Medium

Minute Font AOD
Russo Outlined - Medium

Minute Font Size (Resizeble fonts only)
150

Minute font space top (100 = center, less = up, more = down)
100

Minute font space left (100 = center, less = left, more = right)
100

Minute font spacing (50 = center, less = closer, more = farther)
50

Radial Text Font
RobotoRegular

Radial Text Font Size
30

Radial Text Font Offset (+10 = move to center)
0

Text Font
RobotoRegular

Label Font
RobotoRegular

Font Size Single field
40

Font size center fields
30

Label Font Size
30

RADIAL FIELDS

Field 1 Data

Sea Level Pressure

Field 1 Label

Label

Field 2 Data

Batterij

Field 2 Label

Label

Field 3 Data

Temperatuur hoog/laag

Field 3 Label

Label

Field 4 Data

Temperatuur

Field 4 Label

Label

Field 5 Data

Actieve minuten vandaag (totaal)

Field 5 Label

Label

Field 6 Data

Dag Maand Dag (di 12 jan)

Field 6 Label

Korte label

TOP FIELDS

Top Field 1 Data

Stressscore

Top Field 1 Label

Icoon

Top Field 2 Data

Ademhalingsfrequentie

Top Field 2 Label

Icoon

Top Field 3 Data

Lichaamsbatterij

Top Field 3 Label

Icoon

Top Field 4 Data

Stappen (1500)

Top Field 4 Label

Icoon

Graph / Chart

Body Battery Chart

BOTTOM FIELDS

Bottom Field 1 Data

Hartslag

Bottom Field 1 Label

Icoon

Bottom Field 2 Data

Lichaamsbatterij

Bottom Field 2 Label

Icoon

Bottom Field 3 Data

VO2 Max (loop)

Bottom Field 3 Label

Icoon

Bottom Field 4 Data

Hartslag

Bottom Field 4 Label

Korte label

Bottom Graph / Chart

Heartrate Graph

AOD SETTINGS

AOD Options (Always on Display)

Full AOD (black background)

AOD Draw Options

Full Draw

AOD Dimming Level. If screen turns off during AOD, make this number higher. Lower number = more battery usage)

30%

AOD shift (number of pixels the screen randomly shifts per minute to avoid burn-in)

5

Progress bar Gap size

2

Progress bar Step size

12 (default)

Radial Separator Lines Thickness

8

Radial Separator Lines Length

22

Radial Separator Lines Length Bottom/Top

32

TIME SETTINGS

Time Format (fields eg: sunset/rise)

1900/0600

Use 24 hour clock

Use device settings

Custom Time Format

%h:%i%a

Custom Date Format 1

%D

Custom Date Format 2 [*]

%D

Timezone 1

UTC+00:00

Timezone 2 [*]

UTC+01:00

GOALS

Calorie Goal (Day;Week;7Day;Active day)

1800;10000;10000;100

Active Minutes Total Goal (Day;Week;7Day)

30;120;120

Active Minutes Moderate Goal (Day;Week;7Day)

30;120;60

Active Minutes Vigorous Goal (Day;Week;7Day)

30;120;60

Distance Goal (Day;Week;7Day,Month)

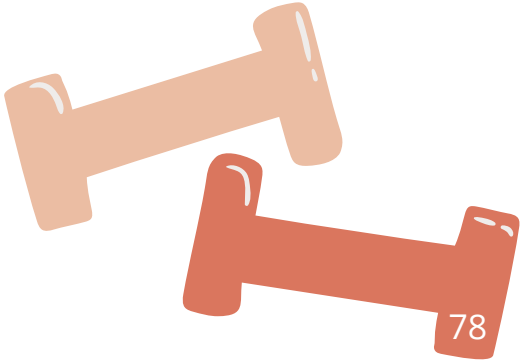
5;30;30;120

Distance Run Goal (Day;Week;7Day;Month)

5;15;15;50

Distance Bike Goal (Day;Week;7Day;Month)

5;15;15;50



Distance Swim Goal (Day;Week;7Day;Month)

5;15;15;50

Distance Custom Sport 1 Goal (Day;Week;7Day;Month)

5;15;15;50

Distance Custom Sport 2 Goal (Day;Week;7Day;Month)

5;15;15;50

Floors Goal (Day;Week;7Day)

10;50;50

Acsent Distance Goal (Day;Week;7Day)

10;50;50

Steps Goals, Sensor temp offset (day;week;offset) -1 = Use System

-1;30000;0

Max/Min Heartrate, Glucose min/max (180;40;70;180)

180;40;70;180

Weight (Start;Goal) (200;170)

200;140

📖 UNITS

Weight Unit

Use device settings

Temperature Unit

Use device settings

Distance Unit

Use device settings

Wind Unit

m/s

Pressure Format

mb/hPa

🎾 Various Customizeables

OWM API Key (One Call 3.0, See FAQ)

OWM Update Frequency

30 minutes

Custom Sport 1 [*]

Tennis

Custom Sport 2 [*]

Rowing

Pressure Format

mb/hPa

🎾 Various Customizeables

OWM API Key (One Call 3.0, See FAQ)

OWM Update Frequency

30 minutes

Custom Sport 1 [*]

Tennis

Custom Sport 2 [*]

Rowing

Aangepaste tekst 1

Portal

Custom Text 2

Text 2

Custom Text 3

Text 3

Custom Colors (separate with ';', max 5)

0xFFFFFF;0xFF00FF;0x00FFFF

DISCUSSION

Concerns were raised during the making of this document and the acquisition of peoples Garmin data. I want to address these concerns here.

Aiming for Blue
Some people are concerned that readers of this document will strive for a lot of blue in their stress graph and become frustrated if they can't get it. Some of their healthy friends see a lot of orange themselves and question the necessity of seeing (so much) blue during the day. I added the healthy profiles to give an idea of what good Garmin data looks like when someone is relaxed and having a nice, calm period. I don't know if this is really something you should or want to strive for. Perhaps it's not possible for some, and this pursuit only leads to frustration. That's certainly not the goal of this document.

Hyperfocus on Data
Sports physician Kasper Janssen says, "Temporarily measure, let go, and perhaps temporarily measure again, but don't focus too much on the data." So you really don't need to keep an eye on a watch forever. There are certainly people who suffer from this hyperfocus. Use it to understand yourself better and let go when you've learned enough. Some people wear their watch, but leave it at home, for example, on vacation.

Comparing
There's the fear that people will compare their scores to others when you should really be comparing your scores to yourself. An HRV of 100 sounds great, but if you had an HRV of 150 two months ago, 100 isn't so great at all.

Experiences
What you've read are mainly experiences of people with ME/CFS or long covid. Keep that in mind if you have a different chronic illness. Currently, in 2025, there's only one study on using smartwatch metrics for PAIS (HRV with long covid). In the future, knowledge about pacing with a smartwatch could change significantly. I also don't know what the effect of using this data for pacing will be. I hope it has a very positive effect and that many people will benefit from it.

ACKNOWLEDGMENTS

Thank you to everyone who contributed to this document. Also, thanks to everyone who shares their smartwatch experiences online because that way we can all learn from each other!

Marijke Otto
Thank you for reading the document and pointing out where information was missing!

Marjan Peeters-Op Het Veld
Thank you for correcting my spelling. I make so many mistakes with my dyslexia, ADHD, and ME brain. Sorry!!

Others with chronic illnesses
Thank you to all the people who shared their experiences and screenshots with me so I could make this manual. Thanks to you, it's become a really cool representation of how data can look for different people in different situations!

Thank you very much everyone!
I hope a lot of people will benefit much more from their smartwatches!
Laure ♡