

[Transcript] Leger om livet / #110. Isbading, kalddusj, sauna, hormetisk stress og bedre helse. Med forsker Susanna Søberg.

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Dopamine is for motivation, so if you go into cold water you will have a huge increase in dopamine. Just within a few minutes you will have an increase up to 250%.

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that is also increasing up to 350%.

Dearly welcome to podcasten leger om livet.

Today's episode is in English and that is because I interviewed a very important woman from Denmark

and I am not so good in Danish, and then I thought it was best to do this in English.

Susanne Söberg is a leading international scientist and expert in cold and heat therapy to reduce stress and improve health, sleep and to optimize performance.

She has PhD in metabolism and cold water exposure from the University of Copenhagen.

She is also the founder and CEO of Söberginstitut.com,

a bestselling author of the books Winter Swimming and Thermalist,

which have been translated into several languages and have inspired thousands of people to embrace the power of cold and heat exposure for their well-being.

She is also a keynote speaker on this topic and has been interviewed worldwide.

Today we're going to talk about how we can use cold and heat exposure as a natural and effective way

to improve our physical and mental health, resilience and happiness.

Welcome to Söberg.

Thank you so much for inviting me.

I am very excited to talk to you and also to talk to your audience in Norway.

So I'm very much looking forward to all your questions and I hope that I can answer just most of them at least.

Yeah, because I get a bit nerdy and I want to know everything down to the cellular level.

But we'll speak about that.

But before that, you're Danish and my Danish is not the best, so we decided to do it in English, which I think is the best for the audience as well.

But I've been looking forward to talking to you for a long time.

I've been following you for a long time and cold exposure has been increasingly popular in recent years

with more and more people taking a weekly plunge into cold water.

For me, this was way out of the question some years ago,

but after reading up on the science, reading your book, winter swimming and going into the research,

I had to give it a try and now I'm hooked.

It feels so good.

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I started this morning with going down to the ocean and taking a plunge and it makes my day. We're going to go into the science behind this, but before we go further, can you explain to us what cold and heat exposure actually is?

Yeah, so cold and heat exposure is some kind of temperature fitness for the body. It's not something that people think that much about, but exposing yourself to some kind of heat, it doesn't have to be extreme heat, but some kind of heat and also cold exposure. It could be air, it could be water, but any cold exposure to the skin is actually fitness for your body. So cold and heat exposure is some kind of like a hermetic stress for the body, which will activate the hermetic process in the cells and we can get more into that of course, but you can see it as a kind of like exercise for the body.

That's incredible, but how did you get into this field?

What sparked your interest in this?

Yeah, that's a good question.

So when I started my research, I was not a winter swimmer myself. Actually, I often call myself, I used to be a cold sissy.

So and it's not very popular or anything, but it's just the truth.

When I started my research, I learned about what the brown fat is.

So this is kind of like my research field, the metabolism around how to activate the brown fat and in that way increase calorie burning in the body.

So I'm a PhD in metabolism, meaning that how can we expose ourselves to some kind of like behavioral activity and in that way increase our metabolism.

And the brown fat research was very like interesting and very new.

Nobody really knows about that.

We have like this mysterious tissue in the body called the brown fat.

We know about the white fat, but we don't know that much about the brown fat.

So the research really showing from the millennium.

So it's really new that if you activate the healthy brown fat in your body, you can increase your metabolism and you can burn calories.

And the most potent way to do that is by exposing yourself to the cold.

And when I started this research in 2016, there was not that many research studies in humans.

So I was, I started out in a cell group at Rissus Bethel and Copenhagen University.

And I was asked by my supervisor, could you do some research in the brown fat in humans?

So I started like reading a lot and what is the brown fat?

Oh, it's activated by code.

And this is the most potent way to do that because then you increase norepinephrine. Norepinephrine activates the brown fat cells and in that way increase them a genesis.

So the main outcome for the brown fat is actually to keep us warm from the inside.

And I was just reading and reading and it was like, okay, so you can expose yourself to cold air and in that way actually activate the brown fat.

But an interesting behavioral thing to go out and say to say that people should expose themselves to cold air was not that interesting to me working at a research group that is working with physical activity

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research.

So I wanted to do like some kind of like applied research, right?

And I was just immediately thinking, what about the winter swimmers in Denmark?

Because we have a lot of winter swimmers here in Scandinavia and you must have that in no way as well.

So I was thinking, what about cold water?

But that was not really researched yet at all when it comes to the brown fat.

So that was kind of like the first thought about how to activate this and how to get into this research.

And at the same time, I was thinking, oh, no, I don't like the cold.

I don't like cold water.

So everything in me told me not to do this, but it was just so interesting.

So I kind of like just follow the curiosity and that's what you do as a scientist.

So yeah, and then eventually I became a winter swimmer and today I'm not a cold sissy.

I remember from med school that we learned that brown fat is something that you're born with a lot of brown fat,

but it decreases as you age.

And when you're older, you hardly have any.

But what you're saying is that you can increase your brown fat again.

Yes, so you're completely right about that.

So we know that babies have brown fat.

We have known the brown fat tissue in the body, which was discovered in 1500 and 51 by a scientist from Germany

who was studying animals and hibernating animals.

So we have known this tissue for many, many years,

but not until the millennium was this really something that the scientists put funding into and started researching

in a way of looking at the metabolism.

So it's quite new research area when it comes to fitness.

So we knew already back then that we have a lot of brown fat when we are babies

because babies don't have the ability to increase their heat in the body when they get cold.

From activating the muscles.

So we have two kind of tissues in the body that can increase our heat,

which is the brown fat, which is activated first and then we have the muscles.

But because we always need to regulate our body temperature as we just walk around in our daily life,

we can't have our muscles shivering all the time, right?

Because then we won't be able to hold a glass or anything.

We'll just be shivering all the time.

But we have the brown fat, which is just activated a little bit all the time, regulating, adjusting our temperature in the body.

So if you get a little bit cold on the skin, the temperature receptors in the skin will send a signal to our temperature regulating center in the brain in hypothalamus.

And in that temperature center, it will signal out norepinephrine to activate the brown fat just a little

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bit if it's just a little bit cold.

And of course more if it's a lot colder, like cold exposure going into the water, then you will have like a firework, of course, of norepinephrine.

And you will have an immediately increase of all your brown fat cells.

And that's going to increase your heat because the main outcome from activating brown fat cells is heat in the body.

But we found out that not only babies do have brown fat, it decreases with age, but adults also have brown fat.

So we started researching like why do adults actually have this kind of tissue still when we have the muscles to shiver.

So we found out that this might have a huge impact actually on our metabolism.

And as we grow older, we get less and less brown fat, unless we activate it and then we grow it again.

But what's the main benefits of having the brown fat? Why do we want it?

Yeah, so research from around 2000 showed that if we activate the brown fat, we can get.

And these studies are done in obese subjects and also subjects with type 2 diabetes, exposed them to cold air and cold cooling vests.

And they saw that they can increase their insulin sensitivity, which is a good thing.

You want your insulin sensitivity to be really good in the body because when you do that, you will have a lower risk of developing type 2 diabetes and also other modern lifestyle diseases.

It could also be some mental diseases because that's also associated with inflammation.

So by activating the brown fat, you will have an increased insulin sensitivity and better glucose balance.

So this is really the huge issue that we have today in our modern lifestyle society.

And we want to find out new ways to increase our metabolism, new ways of helping people to lose some of the excessive calories that we are building.

So what you're saying is that if we increase our brown fat, we can get less insulin resistance.

So we increase our insulin sensitivity and therefore it would be less likely to trigger inflammation.

We know that insulin resistance triggers inflammation.

We also know that insulin resistance is one of the factors that can influence a lot of our lifestyle diseases.

And also what you're saying is that by having more brown fat, we can increase our metabolism.

This is so interesting, Sisanna.

The field that you're working on, it has exploded the last couple of years.

Like five years ago, no one was talking about this.

I even remember my mom was doing cold punches maybe 15 years ago.

And people kept telling her, you shouldn't be doing that.

That's not good for your health. I don't think you should do that. It doesn't sound safe.

But she kept doing it and now it's totally turned around.

Now people are talking about the benefits of this.

But have we been doing this only for the last decade or is this something we used before?

We have done cold exposure and winter swimming for hundreds of years.

It's not something new, especially in Scandinavia.

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And also probably you can say certain people or certain age groups know about the benefits intuitively.

But it's not been until maybe now that the science has caught up really with all the stories that people are telling.

So anecdotally, we do know that this is good for you and it feels good.

You feel less stressed and you get a bit of mood, but it's not something that scientifically has been proven.

So the lower inflammation is kind of like really hard to feel.

But that is what my research area has shown.

So if you can lower your inflammation, that is also going to help on lowering your risk of depression and anxiety.

So it all really is working together, the mind and the body.

So this holistic way of thinking about how the cold is impacting the body is something that is quite new.

But we have done a cold water exposure, cold water swimming, emotions for hundreds of years, but maybe just now it has really caught up with the science.

The reason for that is very interesting, I think.

And I didn't write that much about it in my book, which you just mentioned.

I guess this is the one that you have been reading versus swimming.

But I wrote a new book.

It's only out in Danish. It's called Thermalist, which is kind of like my term for how to use.

It's another approach based on my philosophy on using cold and heat exposure.

But in this book, I go more deep into the history.

What actually happens since we have used cold and heat exposure back in hundreds of years and Hippocrates and Plato said that this is good for your body fluid and it will make your blood flow more easily.

And they use these kind of like terms because they didn't have the science to back it up.

But everybody did it.

The whole society built these spas and cold plungers and also the hot spots as well.

And this is like something that they did in all the cities.

So they built the cities near also the harbors and the water so they can do this kind of like exercise.

But then it was forgotten a bit because then some historical disasters also came.

For example, it was the Titanic disaster where we learned that cold water is something that can be very dangerous.

If you undeliverably fall into the water and you cannot get up, then you can become what's called hypothermic.

So you become too cold within like 30 minutes and you are in a risk of dying from hypothermia.

So then we learned something about the human body, right?

And that really put a little bit of a dark shadow over cold water exposure and winter swimming.

And then right after that, well, then first World War came and second World War.

And the human experiments that was performed in Germany showed which was on human and it was totally a disaster, it was torture and it's not used in science.

It's not something that we reference or anything.

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But it's just a part of history that they performed these kind of like experiments in the concentration camps

where they exposed subjects to cold water to see how long they could stay in there before they die and also to see what happens afterwards.

Can they heat up by themselves or what happens?

The thing is that because of that, it was kind of like put it like a dark shadow over cold water exposure.

How to use it.

And yeah, so scientists after Second World War didn't really go that deep into how healthy is cold water exposure

because of that.

It was probably because it's difficult to get the funding because of these things.

So we are up in 1970s, 1980s before we really see new studies in the science in human physiology looking at what happens when you expose a human body to cold water for just a very brief amount of time.

One minute, one minute, two minutes.

How does the new transmitters increase and stuff like that.

So the new science I call it because it is not that those maybe just the last 50 years that we have like built up now

enough evidence to, yeah, so I can write books and sum it all up and also contribute with my own science in metabolism.

I have to say that you write so beautifully, Susanna.

Thank you.

And the book that I read, Winter Swimming, there are so many fun pictures.

I loved reading it.

There's so many pictures from around the world of people swimming, winter swimming.

And I just loved it.

So I recommend it highly.

And it's also in Danish.

So we Norwegians understand Danish.

So, but I want to go further because you have researched cold and heat exposure.

But what does the science tell us now?

How does this exposure affect us?

Not just round tissue, but how does this affect our physical health, our mental health?

I have a lot of friends that tell me that one of my friends, Edmond Eganberg, who's also a medical doctor, he says that he does it for his emotional well-being.

He feels better when he takes cold plunges.

And I hear that all around that people say that.

Have we researched what actually happens?

Why is this such a potent...

Yeah, a potent way of increasing your health both physically and mentally.

And it really is.

There's been so many stories where people tell how much, how good they feel.

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And of course it's not something that people gather together and agree on.

It's really something that people experience.

So this behavioral thing and this way of expressing how much stress relief there isn't this kind of fitness is something that we need more research in, definitely.

And I think that it's going to come.

But we can already say now that we know what is happening when you expose yourself to extreme cold and extreme heat,

as we know that that is going to activate what is called the sympathetic nervous system.

So when you immerse yourself into cold water, you will also have an activation of what is called the parasympathetic nervous system.

So the sympathetic nervous system is the activation of your fight and flight system.

So the body goes into this mode where it's like ready to run or ready to fight a bear or whatever, because that's how we survived as human species, right?

And we still have that part in us, but we don't really use it that much in our everyday life, not in the right dose at least.

And the dose is actually what is important here.

So, and this is one of my kind of like philosophies and you also get that impression when you read my books,

because short term exposure of extreme temperatures is what the science shows is healthy for you. Long term exposure to stress because stress, heat exposure and cold exposure is stressed to the body.

It's kind of like a dose of toxic to the body.

You have to see it that way and that way also gain the respect around it so you don't overuse it, all right?

So if you in your everyday life can see that you are very stressed and we are,

because we can see in statistics right now that especially after the pandemic, we have an increase in anxiety,

an increase in depression around the world and this has become a pandemic actually.

So the stress we need to decrease in order for also to decrease inflammation in the body.

But by exposing ourselves to the cold and the heat, we can decrease stress and increase our mood because we increase the neurotransmitters in the brain, dopamine, norepinephrine and serotonin, especially if you go into cold water.

What is that dopamine and serotonin? What do they do?

Yeah, that's a good question because you can say brain chemicals.

It's what's controlling our mood.

So these mood hormones and mood chemicals in the brain, we can be better at understanding this and using this for our own advantage.

So if we are in a bad mood, that is something that I really want to teach people that you can actually control a bit how you feel.

You don't have to think yourself into a good mood.

You can do something physical and by doing something physical, you can change your mood.

So if you go into cold water, you go into heat, that is a very strong and potent way of changing your mood

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because the chemicals is going to be released in the brain
and in that way you set yourself at another set point.

Dopamine is for motivation.

So if you go into cold water, you will have a huge increase in dopamine.

Just within a few minutes, you will have an increase up to 250%.

And also when you go for norendrenaline, which is activating the brown fat as well
and giving you that energy in the body and gives you drive

and makes you very on fire the rest of the day, that is also increasing up to 350%.

So it's like giving you both drive motivation and serotonin is another neurotransmitter
which is activated by your rest and digestive system.

So when you submerge into cold water, you will have that activation
and that's going to make your mood more balanced.

So serotonin is a neurotransmitter which is really good for mental balance.

So now we're talking a lot about brain chemicals

but I think that it's an important regulator for you in your daily life.

So if you want to, you can say widen your window for your mood

and for your stress level, you have to do something physical.

And that is where cold and heat comes into the picture

because it's a very strong way to do it.

It's very difficult to do it in the wrong way

and it's very difficult not to change your mood by doing this.

And there is research backing up that it can change your mood.

It can change your anxiety level and also studies really confirm this.

So just giving you an example, there is a study from the UK from January 2023.

So this year showing from brain scans, they had their subjects going into cold water.

They measured the brain and the activation of the brain centers

before going into cold water and then after as well.

And gave them a questionnaire and asking them how do you feel, do you feel anxious

or do you feel in a bad mood and many more questions.

What they see is that the anxiety level was very much decreased afterwards

and they felt in a better mood.

So these psychological, you can say, traits are really important for also,

you can say, explaining how people feel when they go into cold water and take as well.

This is powerful stuff, Susanna, because we know that our emotional well-being
is declining all over the globe.

Many people are experiencing anxiety and stress and depression.

And you're saying here that cold plunging can actually make us feel better.

And that is, that's huge.

I'm wondering then, is this lasting?

How long do you have to do it for, for getting the effects long lasting?

Yeah, so yeah, that's one of the, one of the, my kind of like research areas.

What I wanted to do in my research is actually to find out what is like the minimum dose
that we can get away with and just to get back to the fact that I was a cold sissy.

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It was very much to my heart to figure out, well, if we want to do this, can we just do a little bit so everybody can jump on this wagon? Or is it something that we have to do extremely a lot? So my studies show that you can actually get away with doing just a little bit. And if you look at the research in how the body adapts to cold and also to heat, it shows that a small dose of stress, and this could be exercise as well, but also cold exposure and heat exposure. If you expose the body to a small dose of that, it will make the cells stronger because it increases what is called heat stress proteins in the cells and that will build the cells stronger, repair the proteins in the cells so they will live longer. And if they live longer, you live longer. So that way you can repair them. So you can build this up into three stages. And this is not my theory or science or anything. This is from Hans Selye, who was a famous scientist, published his work in Nature magazine back in 1936, where he discovered the stress, the Hormonal Stress Syndrome. So he really showed that if you expose the body to some kind of stress or the cells, the cells will have an acute reaction in the beginning. And if it survives, it will go into a process where it will build itself stronger because the body prepares itself for the next time. The next time you go into the cold water, the next time you go into the heat, you have to be stronger, right? So the body is adapting, trying to make you survive. So it's a survival thing. But if you keep exposing yourself to a lot of stress, and that could be also acutely by going into cold or heat, but it could also be in your daily life, then you develop what you know today as the term called chronic stress. So in phase three, the cells, if you expose yourself too long, it will be exhausted and it will age faster. You don't want to age faster. That's why this way of living today where we have this, if you expose yourself all day long to stress, it becomes chronically. And if you do that, then you exhaust the body and it will age faster. So this kind of like cold and heat exposure, exercise, but also fasting, these are all building what is called the Hormonal Stress, building the cells stronger and then you get stronger. So it's a way of like longevity. It's a way of an anti-stress cure. You can say by going into cold and heat. But what about people that are already highly stressed?

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Will it decrease their stress level even though they're so stressed and they get more stress in their life?

Do you know anything about that?

Yeah, well, you know as a doctor, if you had a patient coming in and they were super stressed and they asked you,

should I just start out by doing like a lot of like exercise

and going to the gym, even if they may be even sick,

if they're sick, you would always recommend that having an

increased activation of your sympathetic nervous system,

then you won't benefit from activating that even further.

So I would say if you are at a level where you are super stressed

and having maybe even high blood pressure,

then I would not recommend that you start out with cold exposure.

For example, I would recommend that you in some way

get your blood pressure regulated by medicine,

but it should be regulated before you start this kind of exposure.

But you should definitely check that out.

But if you don't have heart diseases,

you don't have unregulated high blood pressure

and you don't have what is called angina pectoris,

I don't know what's that.

So if you don't have that, then you should start out slowly, always start out slowly.

You can start by lowering your body halfway

and if that's too much, then go up again

because your nervous system is very pressured at this time

if you are very stressed, so don't overdo it

and never, never compare with other people.

Don't use other people as a compass, I always say.

It's a way of doing something together with other people.

It's very normal and very common to do this in groups,

but it's kind of like an individual journey

that you do together with your friends,

but never a competition.

So you should always feel how is my nervous system

working right now and even today

because that also varies, especially for women.

So it's always evaluating how stressed you are

and then evaluate how much of stress can you take

this day or in this period of your life.

But you can definitely, if you use it in a wise way,

don't overdo it in the beginning, but just build it up slowly,

then I think you can reduce your stress

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by activating your metabolism,
by activating also these brain chemicals
that we just talked about.
So you're talking about hermetic stress,
which gives us stress in our daily life,
but also can make us more resilient to stress.
That's what you're saying.
And you've also talked about cold punch and heat exposure
can increase our serotonin, our dopamine,
our norepinephrine, which makes us feel better.
So it has an impact on our moods.
But how about our physical body?
What happens there?
Is there any research showing that it affects our physical body,
not just the brown fat, but other parts of our body?
Yeah, but it's connected.
That's what I have to say,
because you cannot take an organ out of the equation
because the whole body is activated
when you go into the cold, when you go into the heat.
Also, actually, you will activate the brown fat
when you go into the sauna.
So this is really our temperature-regulating organ in the body,
really tight connected to the activation of our brain chemicals.
So other things than the mental health,
I think that we should also talk about maybe my research study,
which showed that by going into the cold and also the heat,
so a contrast therapy, as I called it,
when you, on the same day, use on different days,
but you do cold exposure and you do heat exposure,
and in that way, you activate your brown fat.
And my study has shown that you will have an increased insulin sensitivity.
My winter swimmers also had a faster glucose metabolism.
I tested this in the laboratory
where I had my group of winter swimmers
who have been winter swimming for a couple of seasons.
And I think it was two or three.
It was like some of them had two seasons on their back and some had three.
And that was compared to a control group
which were matched on fitness level, age, BMI, and also diet, actually.
So, and they were same age.
So it was like a very focused two groups
where I measured the same thing.

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They had this glucose drink where I then measured insulin and glucose levels in the blood to see how fast does the body get rid of the sugar in the bloodstream and also how much insulin do they produce based on the same amount of sugar drink. And we could see that the winter swimmers had a faster metabolism of the glucose. So they got rid of the sugar faster than the control group and they also had lower production of insulin in the body. And this was tested on multiple days and I didn't even know that this was going to be an interesting outcome. It was like some of the outcomes that you just measure this and then you find out, wow, we can actually see already a difference just by looking at healthy young group of men average age of 24 years old and we could see that there was a difference already. So I think that's very impactful because it shows that you have lower inflammation in the body. Amarcopher inflammation is also IL-6 and IL-10 which we also measured and we could see that was also lower in the winter swimmers and that is really a good thing and backing up you can say all the findings from the study. So the activation of the brown fat must be the key for this because we did see that they had an increased what's called increased thermogenesis non-shivering thermogenesis. So that means that they had increased heat production in the body compared to the control group. So they were just warmer. So that's the thing when I say that I am not a cold sissy anymore. This explains it. So if you are a cold person, you always freeze, you also run around and feel very cold. You should become a cold dipper, a cold swimmer if you like because that will make you physically warmer. And we measured that in my study. We did see the winter swimmers have a higher what's called heat loss because you could say blood circulation in the skin is increased and that's why you lose the heat from the body and to increase your body temperature and keep you warm enough the brown fat is going to keep activating and increasing your heat and that's going to burn calories in your body. So in that way, the body is like working on keeping your temperature and that is good for your metabolism. I find it highly fascinating that this one thing, cold exposure and heat exposure that can have such profound impact

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on our whole body that only some minutes being exposed to, for example, cold plunges a week can improve our health by this much.

After understanding the impact, Susanna, do you think that everyone should do it?

Do you think that everyone should try this for their mental and physical health?

I think that if you are healthy and you don't have heart diseases, so as I mentioned before, unregulated high blood pressure, if you don't have heart diseases or you don't have angina pectoris, I think that this should be something that everybody could do.

I'm not saying this is for everyone.

Not all people would like the idea because we are also in a time where we haven't talked about the health of cold and heat for decades.

So it's very difficult for many people to accept that going into cold and heat could actually be something that is healthy for you because it's so stressful.

Getting uncomfortable is not something people really want.

But I think that with time, just like exercise in the 60s was something new thing.

And now everybody is jogging and I remember seeing these movie clips of people jogging in California and it was looking so fun.

And people were like, oh, there's this new trend.

People are jogging around and it's so healthy.

And I think that this could actually be a new thing now, but it's going to be something that's going to be more and more accepted.

And I think it's going to be mainstream eventually.

So I think if you're healthy and if you're uncertain, then go to your own doctor because they know your medical history and ask them, is this healthy for me?

And I just think from a doctor's point of view that if I can give this to my patients and it can have such profound impact on them, this can be the start of it.

What I'm talking a lot about in this podcast is how we can not just treat illnesses but prevent them.

And this will probably be a very important preventive method for patients.

And what you're saying is that it's not for some people, but for me and you, you also say that you were a cold sissy and I was certainly not the typical winter swimmer.

But I think that everyone should give it a try if their health says that it's okay because you get used to it and it's so interesting how quickly you adapt.

Yes, there's actually studies showing that there's this research study where they have tested how fast do the body adapt to cold water.

It's different for the heat, but let's just take the cold water.

So they tested breathing rate.

It was how fast does the breathing rate decrease by times they go into the water.

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So already by the third time they could see that the hyperventilation was gone and the heart rate and also the breathing rate went down.

So already by the first time, by the second time, and third time you would physically and mentally also feel a difference when you go into the cold water.

So if you go the first time and this will definitely shock you out of your body and mind if you do this the first time, but don't give up.

You should give it a chance by second and third time

and see the difference, see the changes

and feel how does this actually change from the first to the third time.

That is what they found and you would definitely feel that.

So giving it a chance is just like if you start running, for example.

It's going to hurt the first time, right?

It's going to hurt the second time and third time probably as well,

but you will feel that you get stronger and you get and you do that for every time.

So the hermetic stress process starts immediately the first time

and you adapt so quickly and you will definitely feel more confident as you go.

And that is also because you feel less copain and also the heat pain

when you go to the sauna and that's going to increase your mood even more and more because the pain fades away.

But your research showed that you researched both cold and heat.

Can you tell us how many minutes did we have to be exposed a week to get the benefits?

Yeah, so back to the minimum dose.

Yeah, I think everyone wants to know this.

Yes, exactly. So I understand that.

And what we found was that the winter swimmers only went to winter swim 11 minutes in total per week.

So submerged into the water and 57 minutes in the sauna.

But this is divided on two to three days.

So not in one row, not 11 minutes in the water at the same time.

It is divided on two to three days.

And every day of these days you do two dips and three sauna sessions where you end on the cold.

That is what I recommend because that's going to increase your metabolism

because you force yourself to heat yourself up.

And that is the challenge.

That's both a mental challenge, but it's also a challenge for your body

because if you are cold when you end on this contrast therapy of going into the cold, the heat, the cold, the heat

and then you end on the cold in the water, you will force your body to heat yourself up by activation of the brown fat.

So that's going to last for hours.

You'll be cold for an hour or two hours.

But as you adapt to this process, you will heat up before you get home.

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I can tell because I actually did that.

So actually just a few minutes in the cold water and 10 to 15 minutes in the sauna is what my research shows.

It's enough.

So it doesn't have to be extreme.

And I'm very happy that it turned out this way because the extreme heat and the extreme cold would not fit if it was actually healthy

because it doesn't fit with the theory going all the way back to Henseli and the Hormatic stress process.

And the extreme is not going to build ourselves in the body stronger.

It's going to exhaust them.

So what we found is just a few minutes in the cold water and also a few minutes in the heat and it should be enough for you.

So what you're saying is you don't have to be like running a marathon every day.

You don't have to go for 30 minutes every day.

What you're saying is that a couple of minutes a day, three times a week will have a huge impact. Yes.

And if you do less, you will also have benefits.

It's not like you have to do exactly that, but anything is good.

I don't know after 11 minutes, after 20 minutes or something in the sauna.

I mean, it's definitely something showing that if you do this amount, it might be the sweet spot.

So you can aim for it and you can build it up.

It might take a season or two seasons to build this up.

But it's also good to have an aim where you know, well, it's good if you just stay within this range and don't overdo it.

It's easier to overdo it.

I think that it is to underdo it.

So anything up to that, I think 11 minutes and 57 minutes, you should be good.

But what if we don't have saunas available?

But most people in Norway at least have cold water availability here.

Fantastic.

So if you're only doing cold punches or cold showers, how many minutes a week do you need then?

Is it still 11 minutes?

Yeah, I would keep to that is my suggestion, but my study is in contrast therapy.

So if I have to be very nerdy around that, I would have to say we would need to do another study and see if how we can like separate the cold from the heat in this.

But my study was like a concept study where we just had to start out just, you can say, testing the hypothesis around activation of the brown fat,

increasing that increase the thermogenesis, increasing the mitochondria in the cells, which will probably also happen in your muscles when you do cold and heat exposure.

But what we found here is the minimum dose probably, but you can definitely say that if you just separate these two protocols saying you don't have a sauna, you also get benefits out of it.

And say that it's exactly the same as if you added the sauna, I think you are taking a huge

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component out of that equation, of course.

So if you can do heat exposure in another way, I mean, hot tubs, if you have a bathtub at home, you can also do a punch in your hot tub.

But what about because when I go and take cold punches, I live nearby the ocean.

So when I get back after 10 minutes, I take a hot shower.

You recommend that I shouldn't do that, that I should heat myself up before I take a shower.

Yes, yes, I, I recommend that.

And it's now called it's named the soapbook principle by Andrew Hooperman, who is a professor at Stanford University.

We had a talk, I think it's about one and a half years ago now, where he asked me how we should do this kind of activity.

And ending on the cold will activate your metabolism even further.

And it's not dangerous.

You might shiver, which is not, is also a healthy thing because you are activating your muscles in that period of time.

But what I say is that keep yourself active afterwards.

Don't go home and sit down on the couch with a blanket because then your body temperature, your core temperature is going to drop too much.

Not too much, but just enough for you to sit there and shiver and might not be comfortable for you.

But keep moving because it's also exercise.

And in that way, you increase your heat, your own heat in your body.

So in that way, you are regulating your own temperature by taking a hot shower, which you just mentioned will actually do the opposite.

So if you take a hot shower, it's not going to make you that much warmer because the center in your brain, which regulate our temperature is going to get the signal from the skin.

Oh, now you are getting hot.

And then the signals in the brain will be, oh, we will just open up the blood vessels and leave the warm blood from your core out to your very cold tissue.

And that's going to drop in temperature and run back to your vital organs.

And that will send a signal then to the brain, oh, wow, now it's getting really cold.

So you will have what's called an after drop.

You have that anyways, but it will just be even more profound if you do a hot shower right after.

So I recommend you wait a bit.

I mean, an hour after two hours, just wait with the hot shower and it's more healthy for you as well.

That's very interesting.

Okay, so I will start doing that then.

I'm a bit bummed about that, Susanna, but I'm listening to the leading scientist on this.

It's a challenge.

Yeah, it is, but if you can do it, I will manage to do it.

You have told me that you're also, you also have been a cold sissy.

So yeah, I have some more questions.

My friend, Torkel Faro, he's researching HRV heart rate variability and told me that when he's swimming in the cold,

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it increases his heart rate variability for many hours after being in the cold.

So it triggers the person pathetic mode.

I don't understand that.

I don't understand how cold exposure can both increase your sympathetic mode and your parasympathetic.

Do we know how this works?

Yeah, so it's a really good question and it's true that it actually, it increases the heart rate variability, but it's, and that's a good thing.

It's, it's healthy for you.

It's because when you submerge into cold water, this doesn't, it's not the same in the sauna because this, this is by activation,

by submerging yourself into water, but it could also be warm water.

But by cold water, you will have a more potent activation and more immediately activation of your autonomic nervous system.

So when you submerge into cold water, you will activate the sympathetic nervous system.

That is your final flight system.

But because of the diving response when you submerge into the water, you, the body is like and the biggest nerve activation.

Also, if you get, especially if you get water to the face, right?

So that's going to activate your parasympathetic nervous system.

So the diving reflects will be activated and that's going to lower your heart rate on the other hand.

So this by submerging into water will actually lower your heart rate and it will lower your blood pressure.

And if you are adapted to the cold water, you can probably recognize when I say that your heart rate and your feeling of like stress in the body

when you can sit in the cold water until the cold shock response has subsided.

Then you feel even more calm than when you, before you went into the water.

So you can almost feel completely still and it's very fascinating that you can sit there.

It should be very stressful, but you can see that this person in the water is very calm and very still because they have built up adaptation enough to stay in the water beyond the cold shock, which lasts for maybe the first minute for some one and a half minute.

But if you can stay that long and you could build up to that and you can breathe yourself through the cold shock,

then you'll be able to activate also the parasympathetic nervous system and have your, your lowering of the heart rate and you will feel so calm actually.

And if you, if you look at my Instagram, you can see also that I'm in ice cold water and there's ice around me,

but I am completely calm and I still think that when I see my own pictures, I'm like, this is insane.

I don't understand that this is me because before I became a winter swimmer, I wore socks all the time and very thick sweaters and I was very cold.

And just like many other people, I was thinking that cold and heat temperature differences was not something that I should get myself into.

I should just be temperature neutral all the time, but this is actually what's narrowing our stress

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threshold.

So by going into cold heat, that's going to increase our stress threshold so we can take more stress in our life.

So it has really had a huge impact on my life, but also I think for many others, but yeah, just back to the heart rate variability.

I think that it makes sense that activation of both sides, branches of the autonomic nervous system happens when you submerge into cold water.

And that's why you can, you can get so still afterwards.

I feel that effect as well.

It's, it's, it's meditation for me being in cold water, but you say that it's had effect on you.

How, how has cold water immersion had an effect on your well-being?

On my well-being.

So what I always say is that if you feel, you will feel better, no matter what I think, you will always feel distressed afterwards.

And you always feel an increase in mood when you have been into cold water and you have been to the sauna either way or together.

I feel definitely that it works for me, but it is really good in good times.

But I also say it's even better in bad times.

So the more depressed or the more anxious, the more stressed, yeah, to a certain level that you feel and then using cold, you will feel the stress relief afterwards.

So if you are a person who is depressed, for example, you will probably feel more profound effect on the mental side when you use cold and heat exposure.

So I really think this also depends on your whys.

Why are you doing this?

You could be doing this approach, which I call the thermalist approach.

You can call, you can use this for different reasons.

So for mental health, for physical health as recovery.

Also, if you do competitions and sports, for example, so you can use this for many different reasons.

So people will have different effects depending on their whys.

But since most of us feel stressed, at least some of the times, days of the week,

that you're saying that we're building resilience and that we can manage the stress better.

If we do this, I think that will be a big motivation for many of my listeners,

because stress is something that we just have to live with.

It's the part of our society.

Yeah, exactly. It's all over the world.

It's not only, I know that Denmark is in the new report of the most happy countries in the world.

I think that Denmark came in second place and Finland on the top, number one.

And I think that even though that we are such happy countries, we're still stressed.

This is like affecting all of us.

And some countries are more affected than others.

And I do think that this could actually be a new way of approaching it.

It's not invasive, right? It's not a pill that you're taking,

but it's definitely working on your mental health, on your physical health.

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So why not try?

I mean, it's not like there is any side effects if you do it with precautions.

And if you take your precautions and you do it in a safe and beneficial way.

So by microdosing it, as I call it.

Does it help your self-esteem?

I have a lot of listeners that are asking me how they can improve their self-esteem.

Have you seen any research on that or seen it?

You've interviewed a lot of people doing this.

Yeah, I have. And I have observed many people doing my whole career in this.

And I have found that it's very interesting how people get so confident going into the cold waters.

It's definitely a confident booster.

Because when you do this, you will have this huge increase in these new transmitters, which will give you drive and energy.

And all this together will make you feel like you overcame something huge.

You survived the cold, the feeling of survival that you jumped in and then you go up again.

And you feel, wow, I just got a completely big rush out of this and I survived at the same time.

So I can do something really hard.

You just told yourself you can do really hard things.

And then you can apply that to other things in your life.

And you will learn that hard things is something that you can overcome.

And this is a really hard thing to do.

So you grow your confidence.

And I think that is a very important component, especially also for young people, that using this as a way of training your nervous system and training your confidence, showing yourself that you can overcome something super hard.

That is also a way of using the cold and the heat.

That makes me happy.

I'm excited for people to try this out.

I have some more questions before we're going to hang up for today.

My colleague, who is a cardiologist in Tromsø,

wrote me a message when she heard that you were going to be on the podcast.

And I was wondering if I could just ask you, I can just read her question to you.

Okay.

My mother, who is 72 years old, is an enthusiastic year-round ice-wimmer in Hammerfest, which is really far up in the north of Norway.

And I myself enjoy sea bathing in the summer in Tromsø.

I find that I can endure more in life than most people,

but I can't quite get started with winter bathing, even though I want to.

I can't stand to be cold before and after.

And the cold water is too painful.

I don't like to be a wimp.

Is it a genetic trait for how well one tolerates the pain of being in cold water?

Or is it just a psychological tolerance?

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Both my mother and my 11-year-old daughter seems not to be in so much pain as me when we're trying to swim in the cold.

Yeah.

So I can't tell you if there's not a genetic component to this.

That might be, but I think that the most profound component to this is that if you don't like the cold and you're avoiding it,

you are pushing yourself towards even feeling it even more painful.

So you are narrowing your threshold for pain just in general.

So if you are not exposing yourself to something uncomfortable to you, that could also be exercise, actually.

But if you are pushing yourself away from anything that is uncomfortable and feeling a little bit painful, you will have a lower threshold for pain building that up.

So in your life and becoming, I was a cold sissy and I say that because I think I'm a good example for many people.

I think that I look like so many other people when it comes to being afraid of being uncomfortable and feeling a lot of pain when going, when using cold or using heat.

And then you push yourself away from it and that's going to make it even more painful.

So to open that window and to increase that pain threshold for yourself, you have to expose yourself to it, just like the hermetic stress that I talked about also when you mentioned also running a marathon.

You don't start by that because that's too painful.

You start by running two kilometers or five kilometers and then you will feel the pain afterwards but you will overcome it and then you can run even further the next time.

And that's the same with the cold and also when using the sauna, the heat.

You build up this adaptation, pushing your pain threshold towards feeling more comfortable when you are in something very uncomfortable.

So you can increase your pain threshold in that way.

So I think that to the doctor who wrote you, you should start out, maybe with cold showers.

It's a good way to get started with this because it is, I think, even more painful actually than submerging into cold water.

But if they're not ready for that, then they can also just turn the handle to cold after your hot shower and just stand there for a couple of seconds and just getting familiar with the cold and the anxiety around the thought of it is maybe even pushing it to an even more painful, you can say, situation that you are scared of.

But exposing yourself to it the first two, three times is going to break that anxiety around it and then it starts feeling less painful.

So you have to break it, but you have to have guts to do it.

So it's also building your bravery.

I find it interesting that you say that it can be more painful to do cold showers.

I feel that way.

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I feel that it's much more painful to turn it to cold in the shower than going into ice cold water down here.

Why is that?

Yeah.

Well, I think it's because you activate the sympathetic nervous system and also the drops are touching your body in an uneven way.

And also it's like small needles, like cold needles on your body.

But I think that it's a good way to get started.

I don't want to have people thinking, oh, I'm never going to do that then.

But it's a good way to get started.

It's convenient.

Everybody has a shower.

But I think personally, I like to just submerge into the cold water.

It's a better feeling for me also because you activate also the parasympathetic nervous system even more.

But if you stand under the shower and you try to move around so you will also have the cold water in the front and in the back, but also in the face, that's also going to help that pain vanish a little bit.

But how cold does it have to be?

In your book, you wrote that below 15 degrees Celsius, we feel it as painful or something like that.

How cold does it have to be for us to get the benefits?

Well, actually just the definition of cold water might be 15 degrees Celsius or below because that's based on where we have seen drowning accidents in the literature.

So that's based on that.

But the benefits can start from warmer degrees even.

So for example, there are studies showing that if you use water that is submerged into tops that are 22 degrees

and even 27 degrees Celsius and you use that on a daily basis for a week, you will also see benefits on the metabolism side.

So it's not like it has to be zero degrees to have any benefits.

But you can use it as an exercise, just like training in your training center to build your muscle cells stronger.

You will have to increase the weight, of course, so you can decrease the temperature.

That is the way of seeing it.

But you can also change the way you do it.

So you can go up in temperature and you can go down.

So changing the temperature is exercise for your thermogenic response in the body and your cells building itself stronger.

So this is like the thermalistic way that I want to get out to the world, that this is a fitness way of using temperature.

So it doesn't have to be two degrees Celsius for us to get the benefits.

But with your research, what was the temperature in the water then?

So in Denmark, my research study was in open water swimming or open water dipping, I have to

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say,

because in Denmark we call it winter swimming, but it doesn't have to be like swimming.

It can also just be dipping.

So dipping yourself into the cold water and just move around a bit to break the thermal barrier.

It's an important thing, but the water here is always moving.

In Denmark we have a lot of wind and stuff.

So it's like they used, the season of course is going to change the temperature in the water.

I think from October where our season starts, the winter swimming season,

the temperature was around 12 degrees Celsius and then it decreases by January.

It will be around 2 degrees Celsius and then in April it's back to like 12 degrees.

So it's around that.

So it's cold, but it varies.

And I think that completely implies what I'm saying about changing the temperature and that's going to help your metabolism.

That's good to know.

Okay, Susanna, I could talk with you for hours.

I love this topic.

I think it's highly fascinating that this one thing can have such profound impact on our well-being and our physical health.

But can you give us, if I'm to give this as a method for my patients to make them feel better in one way or another,

how would you recommend starting out and how many days a week?

Because people, they want to know exactly how to do it.

Yeah, I understand that.

That's actually this request that you come with is the reason why I have made the Soberg Institute, which is my online school where I teach people the end users.

So in layman language, I tell people the science behind but also how to do it

because it's not something that I can explain everything in an interview,

but showing people how to do it, also the why.

So how to breathe, how to, how long time to stay in the water,

but also how to use the sauna in combination with this.

I think it's very important that people get both the benefits but also on the safety advice so they get off for a good start.

So that's what I teach at thesoberginstitute.com.

And I think that you could also just go with the 11 minutes per week and the 57 minutes in the sauna.

But what I think is important is also how you do it.

So that's what I'm teaching at my school.

And it doesn't take that much time.

So I think it's really good that people are coming and taking this course because it really shows that people are interested,

but it also shows that people want to learn how to do this the right way

and just not just jump into it and just do whatever.

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So it has become a very popular course.

It's the three week thermalist course and it's highly rated.

And I'm really happy that people who took the course say that this is like changing their lives and even experienced winter swimmers who already do this, have done it for many, many years, have taken the course and told me that it has been a game changer for them because they changed the way they did it.

So I think that I'm happy that my knowledge is so it can be used out there.

I love that you've made this course, Susanna. That's great.

It gives this method out to the people.

So check that out if you want to learn more from Susanna.

I just have to say you mentioned safety and you write about this as well, that you should bring somebody if it's in cold water.

So I just think we should mention that at the end of that.

I think it's important that you don't do this alone.

It's always a safety thing.

Don't do this alone.

Have your swim buddy with you.

It's also a way to hold yourself accountable.

And holding yourself accountable is something that you also would train by doing this.

Getting your friends along, they will definitely tell you to come along.

And if you do it alone, it's much easier just to not go.

And it's also a safety thing because if you go alone, there is a risk that if something happens, you slip on the jetty or you faint or something, then there is someone there to call for help or help you.

So it's just a safety thing.

Just don't go alone.

Yeah, it's good with a precaution.

Yeah, yeah.

Yeah.

Okay.

I like to end my episodes with this one question that I ask.

Yeah.

And you've learned a lot about cold water immersion and heat exposure.

But if you were to leave this planet today and you only had three advices or things or something you want to say to the whole world when you leave, before you leave, what would those three things be?

Oh, that is a good question.

Yeah.

So if I was supposed to give some advice for people, that would be to question also the way we live today,

because there is an increase in depression and anxiety in the world.

And we have very much used the Western way of like using medicine for many years.

And we produce more and more and more medicine and we still don't get healthier.

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So an advice for me would be to rethink how we live our lives.

Do we have to take all this medicine?

Maybe can we do more to prevent getting sick?

Can we do that in our society even more?

Can we broaden the way that we live?

Can we broaden other ways of living than just this Western life that we have?

So I think that we have to rethink the paradigm around health and also around our sick care.

So especially, and I think that is in no way too, if you get sick, then you get into our sick care, you can say.

But we don't really have any help for our prevention of getting sick.

So I think that if we can rethink the way that we live, taking more nature into our lives, thinking about prevention, thinking about what can you do to get better in your life, because you are responsible for yourself.

So if we can take more responsible for ourselves and do more self care, then we can also maybe prevent some of the diseases that we see that are increasing right now. So yeah, using nature more.

I love that you're saying that. I love that you bring this up.

That's, yeah, that's powerful.

And that's what I want to teach in this podcast that we have so much we can do for ourselves that makes us feel better, live better, be healthier.

And most of it comes from nature.

Yeah, exactly.

And I think that we can, if we go into nature and accept more of our, if we accept that we can do more and we seek new ways of doing this, then we could probably do change a lot.

And I think that also our, on a socio economical level, this could be very interesting to take this kind of preventive medicine more into our lives, but also getting the systems to accept it and take it more into clinics and take it into, yeah, and using it as advice for people when they, for example, go to the doctor.

Yeah, actually, I think that it's such a good thing.

And I actually want to give your audience a discount to come and do something for themselves if they want to like prevent physical and mental diseases and they want to prevent getting sick or actually using it to getting more healthy.

I would like to give your audience a discount for my course.

Great.

Yeah, I think that, I think it's an honest place because now we're also talking about it.

So I would like to give, I'll give you 10% of the free week course.

We should make up a code for that.

So maybe Lea, yeah, do you have a suggestion?

It can be länger om livet.

Yeah, good idea.

Okay.

Lea ger om livet.

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If you type in the code läger om livet, so one, zero, in the three week course, you will get 10% off.

And you are starting your healthy lifestyle and you can add that to your physical activity. You don't have to swab it or anything, but if you add it, it's even better.

So, and you will learn a lot about the heat as well because we didn't talk too much about that, but it's 50% of the course.

Yeah, that's interesting because saunas have become increasingly popular here and saunas like pusta, they're all over the country now and I love it.

I love saunas with the cold immersion.

It gives a very good feeling afterwards.

Yeah, exactly.

Thank you so much for joining us.

Saunas, I know you're super busy and your research is mentioned all over the globe.

Now, everyone wants to get a hang on you, but thank you for taking the time.

Where can my listeners find you?

www.Sauberginstitut.com.

Is there anywhere else they can, places they can find you?

Yes.

So, I am also on social media.

So, if you want to get my advice and also see some of the way I suggest winter swimming or dipping and using saunas, I give health advice, science-based health advice on my Instagram channel.

It's Susanna Søberg and also I'm on TikTok, Twitter, and you can also sign up for my newsletter, which is a very comprehensive explanation and tips on that is all science-based.

And there I can of course give more information that I can do on social media, but you can go and check it out and you're very welcome.

I will post it in the episode info in the show notes.

So, that's great.

Thank you so much for joining today, Susanna, and good luck with everything you're doing.

I'm so happy that you do this and that you bring this out to the people.

It makes a huge difference for so many people.

Thank you so much for inviting me.

Have a great day.

Have a great day. Bye-bye.

Bye.

I hope you enjoyed the talk.

It was inspiring.

In any case, I think this is a topic that is so fascinating.

It's that we can express ourselves in cold and warm way,

that it can make us more robust, give us a better physical and mental health.

It makes me very happy because it's a topic that everyone can use.

I've never done it before.

I'm so happy because I see that there are more topics that we can use

[Transcript] Leger om livet / #110. Isbading, kalddusj, sauna, hormetisk stress og bedre helse. Med forsker Susanna Søberg.

for our own health, both for building and maybe help to make us fresher if we have a disease.

Thank you so much for listening.

If you think this talk was for the 90's and you think someone else has the 90's, send it to us.

It's a good knowledge.

If you're with me, you can contact Dr. Anette Dragland on Instagram and Facebook.

I also have a newsletter, so you can go to www.anettedragland.no.

With that, I would like to say thank you for today.

Thank you for subscribing.

I wish you a very nice day.

I hope you try this out because it's fantastic.

And it's also very, very hot.

Okay, have a very nice day.

Have a good one.

www.anette.no.