

# dr MARIA**SUNDBERG**

## Meet Annika Krull – Runner & Triathlete

**Name:** Annika Krull

**Sport:** Running & Triathlon

**Born:** 23.2.1988

**Education:** Master in Mechanical Engineering (Ruhr University Bochum), and Sports Engineering (University of Technology Chemnitz).

**Work Experience:** PhD-student in Biomechanics/Medical Engineering at the Technical University of Hamburg.

- 1) *Out of scientific curiosity - what is the title of your PhD-thesis, and what are you trying to achieve?*

The title of my thesis is "Failure analysis of hip endo-prosthesis". Hip joint replacement is one of the most common orthopedic joint surgeries, but there are risks and complications, like a fracture of the endo-prosthesis. The fracture/failure of endo-prosthesis is a very painful event for patients. In my thesis I analyze possible causes and parameters that influence the failure and investigate possible improvements.

- 2) *At what age did you start running and competing? What is driving you?*

I do sport as long as I can remember. I started with gymnastics, swimming, and athletics. At the age of 16, I moved to the Olympic Training Center in Bochum due to my athletic achievements in the disciplines jumping, tripping, and hurdles. I participated in numerous national and international competitions but when I enrolled for university studies in Sports Engineering, I decided to finish my sportive career to focus entirely on my studies. Quickly I realized, that without sports my life was not complete. Since I wanted to be independent in time and location, I started running. Taking this decision, my former track and field trainer laughed at me since I in the past thought that a warm-up run of about 800 meter was already too long, and I did absolutely not enjoy it.

However, I gradually gained more and more interest in running and after a short time I ran my first competitions - at the beginning over shorter distances - until I won a place for the Berlin Marathon in 2013 and dared to take on the "prestige" distance. With only minor preparations I happily finished my very first marathon at a time of 3:30, and I was hooked.

- 3) *What is your next big challenge? What is your main goal this year?*

At the moment, I am recovering from an intensive running phase. First I ran the German Half-marathon Championships in Hannover with a new personal best (PB) of 1.19.08, and then two weeks later the HASPA Marathon in Hamburg, where I also was able to set a new PB with 2.48.06. From now on my focus will turn to triathlon. My highlight this year will be the participation in the Long-Distance Triathlon World Championship on Hawaii in October. Until then, I will participate in some other triathlon events. The first highlight is the 70.3 European Championships in Elsinore, as well as my first start at the Hamburg Ironman on the 13th of August. In parallel, I will also

participate in one or another running event. For example, the Hella Half-marathon, or some social and team-building events such as the MOPO-relay.

4) *How often do you train? When do you preferably train? Do you train two times per day?*

On average I train 7-8 times a week. Within the week, I sometimes go swimming before work, so I can spend the evening without sports. At the weekend, I often have 2 units on one day. The number varies over the year and is dependent on the upcoming competitions at the weekend or the seasonal phase.

My "favorite discipline" is still running, and I especially prefer the faster running workouts – intervals and tempo. To relax and to get my "clear my head", I enjoy easy and longer runs on the weekend, for example in the forest around Hamburg (for example in the Harburger Berge). These runs are about enjoying nature and getting distance from the turbulent city life. But I have also settled with the two other triathlon disciplines - swimming and cycling.

5) *Do you have a trainer? What is your training program?*

No - I do not have a coach. I do "my own thing". For the running I should have gained some experience over the past years. This makes me more independent in my planning and I can adapt the training units to my occupational and social commitments. For swimming and cycling I talked to some coaches, athletes, and my partner (who has already completed 10 long-distance triathlons - and therefore has some experience, tips and tricks). But I have also tried to find my own way. And when I look at the times and my successes in the last months - I seem to have a good feeling for how to plan my training.

6) *So, how do you plan your training week? Do you follow a hard day by an easy one?*

To be honest, I make my workout purely out of my feeling. There is a rough rhythm throughout the week - but I listen to my body and try to find the right dosage. Overall, I rely on qualitative training rather than on quantitative. So for me, rather short and intense – then to sit on the bike for hours or to run around the Alster. Of course, with my goal to finish the long-distance triathlon I have to do one or another long run or biking trip. But since I always have my partner with me (or I accompany him and sometimes I am definitely a "brake") and we always try to explore new routes, for example biking to the sea, these units are varied and feel relatively quick. Frequently, I also do regenerative units (for example stabilization training or easy cycling) after long and intensive training sessions, or spend an evening in the sauna.

*Can you describe stabilization training in further detail? Do you mean push-ups, sit-ups, planks, etc.? Or, do you mean yoga-type exercises?*

Stabilization training consists primarily of strengthening exercise for the core. There I have a sequence of about eight exercises (for example sit-ups, frontal- and side planks, and exercises for the hip stability). Good core and hip stability is essential for fast running, good water position while

swimming, and keeps muscular problems of the back away during longer bike sessions or other longer training units. In addition, there are the “basic stretching exercises” for the front and back muscles of the thighs, the calves, and the hip parts, and stretching program. I vary the exercises and adapt them to according to where I feel that I have weak point. Another tool that I (try to) regularly integrate into my training is the Blackroll. Since I do not regularly visit a physiotherapist, the Blackroll offers a good way of self-therapy to regenerate muscles and to substantially dissolve muscular strains.

7) *How do you keep track on your training and your progression? Do you keep a training-diary?*

I have kept a training-diary at times but not done this consistently, which brings little in the end, and therefore I have now completely rejected it. Instead I am using a Garmin watch and Garmin Connect to record and store my training units – and nowadays this act as my training diary.

8) *How often do you run in a week? How often do you run intervals, and tempo runs?*

Before I started with triathlon, I ran almost every day, and at least two to three times a week, I would run interval or tempo. Now when I have to integrate the two other disciplines into my everyday life, I try to accommodate two faster running units a week. For example, on Wednesday 8x1km, and then on the weekend a longer tempo run. I do not have too many long runs in my program at the moment. I prefer to work on developing my basic stamina with longer biking units.

9) *I am interested to know more about how you plan the cycling- and swimming training. I find it rather easy to pace oneself when running and especially when running on the track. As the running pace is more or less equivalent to the intensity and the heart frequency, it is rather easy to estimate the training effect. But how do you select your intensities and your paces as you are cycling and swimming?*

In the triathlon disciplines I do not have such long experience as I have in running, so I cannot really rely on my feeling for the swimming and biking units. For this reason, I did a performance diagnosis on the bike a few weeks ago in order to be able to narrow my pulse ranges, so that I can specifically distinguish the training zones; basic endurance 1 and 2 from each other. I have not fully grasped it yet - but I think it is a first step in carrying out structured bike training. Since I am still a complete beginner on the bike, I do not necessarily need very specific and structured training. For me it is still about the fact that my body needs to get used to cycling. That I build the corresponding endurance, and above all the specific muscle groups, as I lack these due to my intensive focus on running for the last couple of years.

10) *How many times per week do you ride your bike? What is the duration of a typical cycling workout?*

I try to plan about 3 cycling units a week. The units within the week are not so long - maximum 90 minutes – since longer units are not compatible with everyday life/work. In these units, I try to

build up my strength by riding 5x5min with a very high resistance and accordingly a low cadence. On weekends, the longer bike rides between 3 and 5 hours take place.

11) *Do you go by muscle feel when cycling? Do you care about your cadence?*

Yes and no - I have been trying to orient myself to defined heart rate ranges. I cannot do this properly yet - but I practice. If the wheel unit is outside, I also orient myself at the speed – but these also vary greatly depending on the wind or climbs. The most effective and accurate method of training controlled on the bike would definitely be watts measurement in the pedals. But this system costs about 1000 € and I would like (at least currently) not completely dependent on the technology but rather on my feeling.

12) *How does a typical swimming workout look like? Do you mix the techniques, or are you just focusing on crawling? Do you break the swimming workout into intervals?*

When swimming, I have the advantage that I already as a child was training and competing in swimming. Therefore I have the basic water feeling, but I could still improve my technique and my speed. Primarily I focus on crawl - since this is the swimming style in the competitions. As a "regeneration technique" I also like to swim a few lanes of chest. In the past, I stupidly swam my kilometers in one go and did of course found the swim training boring. It did not make me faster either. So now I have incorporated intervals into my training (for example 20x100m, or a pyramid of "Sprints" ranging from 25-50-100-50-25m). Also, aids such as paddles or a pool buoy make the training much more varied and correspondingly more effective.

I chose my swimming speed primarily after feeling or based on 100m times in the pool. I used to swim my lanes the same speed up and down for about an hour – meanwhile I also build smaller interval units (for example 20x100m) here and try to get a better feeling for my swimming times and speed.

If my calendar allows, I try to take part in the technical training events offered by my triathlon club. Under the guidance of a swim coach, I can work on correcting my technique and correcting errors that arise when I swim too much for myself. If the weather allows, I try to swim open waters in the lakes around Hamburg, as this mimics the real situation in triathlon. Open-water swimming differs significantly from swimming in the pool. The sight is worse due to the unclear, often murky and dirty water, and this affects ones feeling of orientation. Swimming in the nature makes more fun than in the pool – but in the beginning of the season and during the first open water sessions I have to get used to the unusual conditions. Also, I have to adjust to swimming in the neoprene suit.

13) *Your running has improved remarkably with the triathlon training. Can you describe your feeling while running? What is different? Do you have more endurance, or more strength?*

To be honest, I cannot answer this question "scientifically". Swimming is definitely a "full body" training. In order to have a good water position and feeling, good core muscles are helpful. And vice versa, I believe that I have built my core muscles by swimming, which brings advantages especially during running – it makes it more efficient.

Cycling has brought me considerable progress with regard to my basic strength. The longer biking units can take up to 5 hours – and then the body is trained to use and improve its energy reserves. It would not be possible to realize such long running units. Thus, I believe that with regard to the energy supply - especially on the longer running events such as the marathon, cycling helps very much.

14) *My own dilemma is that once I have a running competition on the agenda, I tend to only run and run the weeks before. It is like I am afraid of getting ill from swimming, and injured from cycling. Do you mind share some more details about the training you performed in between the Hannover Halfmaraton and the HASPA Marathon? Did you just focus on recovery and running, or did you also follow on with your triathlon training?*

I know this feeling - but to violently wanting to complete training sessions can in the worst case result in an injury. So the best is to follow the guidelines – to create a plan beforehand, stick to it and keep calm. If it did not work as planned in the training phase, then the rest must be represent. A competition is always a goal that you can train and look forward to – but it should never be a real stressor – you should always enjoy and make sure to have fun in the sport you do.

Setting a new personal best at the half marathon in Hannover, I felt that my running form was good enough for the marathon. Therefore I put focus to cycling and swimming in the two weeks in between Hannover and Hamburg. My training looked as follows:

10.4 Stabilization & Sauna  
11.4 Swimming  
12.4 Swimming  
13.4 Cycling  
14.4 Running & Cycling  
15.4 Swimming & Cycling  
16.4 Cycling  
17.4 Aquajogging & Swimming  
18.4 Swimming & Running  
19.4 Swimming & Running  
20.4 Swimming & Cycling  
21.4 -  
22.4 Running  
23.4 HASPA Marathon

15) *Did you ever reach a plateau in your running where you had to find new ways and methods to improve your running?*

A real plateau with regard to the best times I did fortunately not yet have, and my focus on triathlon, have improved my running best times significantly. My current big drawback is my stretching ability. I think if I work on this in the next months/years, then (hopefully) it will help me progressing my results and stop me from reaching a plateau.

16) *What are the most frequent injuries that you get from running (for example knee-pains, back pains, hip problems etc.)?*

My cracking point is my feet. In these I already had numerous injuries like a tear of the plantar tendon, fatigue fracture in the metatarsus, and a protracted Achilles tendon injury. All these could have been avoided, because they were clear overload damage due to too much and too intensive running. I had already felt all three injuries at an early stage, but still I did not retract the training, and continued to train until my foot finally struck. Because of these injuries, I actually came to the Triathlon. In the injury periods I had to engage in alternative training. The focus was on aqua-jogging, swimming, and spinning. After numerous hours on the bike, I registered for my first triathlon in autumn 2015.

17) *How do you prevent injuries and over-training?*

From the diversified triathlon training, in combination with stabilizing and strengthening units, I hope to be spared from possible injuries. I try to listen relatively well to my body and this is perhaps the reason why I have not joined a coach or a training group. If I feel tired during a training session, I like to shorten the appropriate unit. The other way round - I feel particularly good in one unit, then I like to run or bike one or another kilometer more.

18) *How do you recover from your hard training and competitions?*

The sauna is where I treat myself after hard sessions or competitions. Depending on how strenuous the competition was, I prescribe a day off from cycling, running, and swimming and rather train in the area of stabilization, strengthening, and stretching.

19) *Do you keep a strict diet to be at your fastest competition weight?*

No - I do not keep and have never done a diet. There is also no special nutritional strategy with regard to bigger competitions. I eat (at least I think) quite balanced (except the Nutella sins - see below) and I can keep my weight well. But during longer training camps as the biking camp we had this spring - I have to take care to eat enough to not weigh too little.

20) *Food wise - how does a general day look for you?*

a. *What do you eat for breakfast?*

My classic breakfast consists of a large coffee before work, and then some cereals with lots of fruit later at the office.

b. *What do you preferably eat for lunch and dinner?*

At lunchtime, I either eat in the university cafeteria or have brought with me something from home. There are no strict rules here - I eat whatever I have an appetite for.

In the evening I eat at home and cook with my partner. We are relatively creative and make sure we cook balanced - but we do not follow any diets, prescription plans, or the like.

c. *What do you snack on?*

My favorite snack are banana chips - I just love them. Chocolate is always good, of course - but I try to limit myself to the weekend and not consume too much of it during the week. Unfortunately, the institute has relatively frequent cakes - and baking is also one of my hobbies - so I regularly snack a bit of cake in the afternoon.

21) *Do you have eating habits that you know is not so "healthy" in the long run, but that you seems not to be able to change?*

Definitely. My great sin is Nutella ☺ - gladly without bread and sometimes with a banana (whereby the ratio banana to Nutella must be at least 50:50 ☺) .. otherwise also gladly with the spoon in the large glass. There have been times when this consumption has definitely overpowered, so I have now prescribed the rule to Nutella only on weekends. *MS Remark: Annika, you most probably need this kick of Nutella to balance your energy demand. All the hours of training, and especially the long units will drain your body of glycogen and fats.*