

A woman with short dark hair, wearing a grey cardigan and a necklace with a green pendant, is smiling and holding a white sign with the handwritten number "2.3". The background shows a bookshelf and a window with a white chair.

**“I know my value”**

*Be an active part of your anticoagulation therapy  
with INR self-monitoring*

**CoaguChek<sup>®</sup>**  
Because it's my life

A decorative graphic element consisting of a wavy line in shades of blue and red.

*INR\* self-monitoring  
needs only  
a drop of blood,  
is easy, fast  
and decreases  
the possibility  
of complications,  
such as clots  
or bleeding*

\*International Normalized Ratio (see page 10 for additional information)

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# Be involved in your anticoagulation therapy

*Find out more*

## Anticoagulant treatment

Have you just found out from your doctor that you need to start taking an oral anticoagulant? Or are you already taking an oral anticoagulant but would like to have more information?

## Anticoagulants are drugs which make your blood “thinner”

- Some may refer to this as “thinning the blood” but they actually increase the time it takes your blood to clot<sup>1</sup>. For example after an injury it will take longer for the bleeding to stop than for someone that does not take an anticoagulant
- They are taken by millions of people worldwide every day<sup>2</sup>

## Anticoagulants are commonly prescribed for the following conditions<sup>9</sup>:

- Atrial fibrillation
- Mechanical heart valves
- Venous thromboembolism

This booklet will give you background information about these conditions and how they are usually managed.



**“With warfarin and monitoring  
I reduce my risk of stroke”**

## Currently available anticoagulants include:

### Warfarin

- Given as a tablet
- The most widely used anticoagulant in the world<sup>3</sup>
- Needs monitoring<sup>4</sup>

### Aspirin

- Given as a tablet
- Not as effective as Warfarin<sup>5</sup>

### Heparin

- Has to be given as an injection or in a drip<sup>6</sup>
- Usually not used long-term

### Other oral anticoagulants

- Given as a tablet
- Regular monitoring not required<sup>7</sup>
- Not suitable for all patients<sup>8</sup>

# Atrial fibrillation

## *You are not alone*

### Atrial fibrillation (AF) is common

- More than 2.5 million people in the US and 6 million in the EU are affected by this condition<sup>10</sup>
- AF is especially common in older people, affecting nearly 10% of people over 80 years of age<sup>11</sup>

### What is AF?

- AF occurs when the electrical impulses which control the heartbeat become disorganised<sup>12</sup>
- This causes the upper chambers of your heart (the atria) to contract rapidly and irregularly<sup>12</sup>
- As a result, your heart will not pump blood around the body as effectively as it should do<sup>12</sup>
- AF can occur in short episodes or can be permanent<sup>13</sup>

### What are the symptoms of AF<sup>14</sup>?

- An irregular heartbeat
- Dizziness
- Tiredness
- Breathlessness
- Chest pain



Fig 1 (above): Electrocardiogram tracing of a normal heart rhythm.

(below): In atrial fibrillation, the tracing shows tiny, irregular «fibrillation» waves between heartbeats. The rhythm is irregular and erratic.

Percentage of AF patients who have a stroke each year



*Warfarin  
reduces your  
risk of stroke*

Fig 2: Warfarin reduces the risk of stroke in AF  
(Adapted from Hart et al, 2007)<sup>5</sup>

### What are the treatment options for AF<sup>15</sup>?

- Medications to normalize the heart rhythm
- Cardioversion (electric pulse to try to restore a normal rhythm)
- Catheter ablation (radiowaves applied to the diseased tissue of the heart)
- Pacemaker device fitted to control the heart rhythm

### If you have AF, then you have an increased risk of stroke

- If you have been diagnosed with AF, you are up to five times more likely to have a stroke than people who do not have AF<sup>16</sup>
- Furthermore, people with AF tend to have more severe strokes than people without AF<sup>17</sup>

### What causes a stroke in AF?

- If you have AF, blood tends to travel more slowly through your heart<sup>17</sup>
- This slow-moving blood can pool in the heart and start to form clots<sup>18</sup>
- Clots can then leave the heart and can travel to the brain<sup>18</sup>
- If a clot prevents fresh blood from reaching a certain area of the brain, brain cells will eventually start to die, causing a stroke<sup>19</sup>

### How can the risk be reduced?

- Taking an oral anticoagulant will significantly reduce your risk of stroke<sup>5</sup>
- Warfarin is the most widely used oral anticoagulant for the prevention of stroke<sup>20</sup>
- With your doctor you can decide what is the best treatment option for you

# Heart valve replacement

## *A common treatment for heart valve disease*

### What is heart valve disease and how can it be treated?

- Heart valves ensure that blood flows in only one direction through your heart<sup>21</sup>
- However, some people are born with faulty heart valves or have damaged valves as a result of disease or ageing<sup>21</sup>
- If heart valve disease cannot be treated by medication or surgical repair, then the only option is to replace it with an artificial (mechanical) or a tissue valve<sup>22</sup>

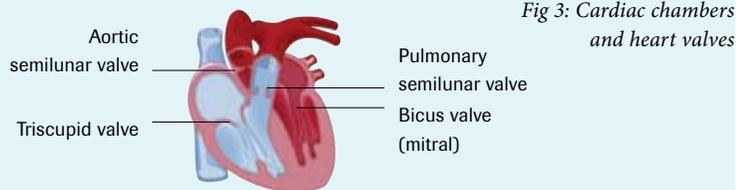


Fig 3: Cardiac chambers and heart valves

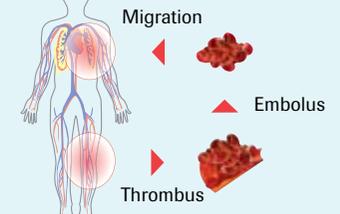
### Heart valve replacement is a common treatment, but it can cause clot formation

- More than a million mechanical heart valves have been implanted in the past 50 years<sup>23</sup>
- However, they can trigger blood clot formation, potentially causing a heart attack or stroke<sup>24</sup>
- If you have a mechanical heart valve then you will need to take anticoagulants for the rest of your life<sup>25</sup>
- Warfarin is currently the anticoagulant of choice for patients with mechanical heart valves<sup>24</sup>

# Venous thromboembolism

## *Deep vein thrombosis and pulmonary embolism*

Fig 4: A venous thrombosis forms within a vein



### Who is at risk of venous thromboembolism?

- If you have just had major surgery or a total hip or knee replacement, your doctor has probably prescribed you anticoagulants to prevent the formation of harmful blood clots<sup>26</sup>
- Other risk factors for venous thromboembolism include pregnancy, obesity, older age, a sedentary lifestyle and inherited conditions which make blood more likely to clot<sup>26</sup>

### What is a venous thromboembolism?

- The medical term venous thromboembolism includes the conditions deep vein thrombosis and pulmonary embolism<sup>27</sup>
- A deep vein thrombosis is a blood clot which forms in a deep vein, often in the legs<sup>28</sup>
- Pulmonary embolism is a complication of deep vein thrombosis which arises when a blood clot breaks away and travels to the lungs<sup>28</sup>

### What are the consequences of a pulmonary embolism?

- In mild cases, it causes chest pain and breathlessness<sup>28</sup>, in severe cases however, it can cause sudden death<sup>29</sup>
- Without treatment, 5-15% of deep vein thrombosis sufferers may die from a pulmonary embolism<sup>30</sup>

### The main treatment for venous thromboembolism is anticoagulant therapy

- Usually an oral anticoagulant such as warfarin is given for at least 3 months<sup>27</sup>
- If you are affected by recurrent deep vein thrombosis, an oral anticoagulant may be given for longer, sometimes for life<sup>27</sup>

## Ensuring effective warfarin therapy

### Knowing your INR value

#### Effective warfarin treatment requires monitoring

- Taking the correct dose is crucial for efficient anticoagulation treatment.
- The correct dose is established by measuring how long it takes your blood to clot. This is called the International Normalized Ratio (INR)<sup>3</sup>
  - An INR of 1 is normal and is found in people who are not taking warfarin<sup>31</sup>
  - An INR of 2 means that your blood takes twice as long to clot as normal<sup>32</sup>
  - An INR of 3 means that your blood takes three times as long to clot as normal<sup>32</sup>



Fig 5: Not enough warfarin (e.g. too low INR) is associated with a risk for blood clots, while too much warfarin (e.g. too high INR) can lead to bleeding complications. The optimal INR depends on your condition; for atrial fibrillation it is between 2 and 3<sup>10</sup>.

- Your doctor will provide you with a target INR range, depending on your indication. Within this therapeutic range you are at the lowest risk of stroke or embolism<sup>31</sup>
- As your response to treatment may be affected by several factors, such as the food you eat and medications you take<sup>33</sup>, it is important to monitor regularly to check your INR value

*Monitoring is the safest way to know that your anticoagulation therapy is working effectively*

#### Taking the correct dose is crucial to prevent complications<sup>4</sup>

- If you are not taking enough warfarin (i.e. your INR value is too low), you are at risk of:
  - Developing harmful blood clots (which can, depending on the condition you have been diagnosed with, cause stroke, heart attack or venous thromboembolism)
- If you are taking too much warfarin (i.e. your INR value is too high), you are at risk of:
  - Bleeding or bruising
  - Excessive blood loss in response to injury
  - Brain hemorrhage

Self-monitoring  
can help you  
achieve  
independence,  
whilst  
having the  
reassurance  
of knowing  
your INR  
value,  
anywhere,  
anytime

## INR monitoring

Your time is important

### Patient self-monitoring at home



Capillary  
sample  
drawn with  
fingerstick

INR value on  
CoaguChek®  
XS system

Possible dose  
change by  
HCP

### Patient self-managing at home



Capillary  
sample  
drawn with  
fingerstick

INR value on  
CoaguChek®  
XS system

Possible dose  
change by  
patient

### INR test in surgery



Clinic  
appointment  
needed

Patient  
record  
reviewed

Capillary  
sample  
drawn with  
fingerstick

INR value on  
CoaguChek®  
XS Pro  
system

Possible dose  
adjusted and  
documented  
by HCP

### INR test in the hospital



HCP takes  
venous  
blood  
sample

Courier  
transports  
blood  
sample  
to lab

INR  
result lab  
performs  
test

Lab  
communi-  
cates result  
to HCP

Results  
reviewed by  
HCP

HCP  
communi-  
cates INR  
result to  
patient

Possible dose  
adjusted and  
documented  
by HCP

## Patient self-monitoring

*Increase your safety and independence*

### Be involved with your anticoagulation management

- Have the peace of mind that you know your INR value when needed, home or away
- Self-monitoring only requires a drop of blood and results are available within a minute
- Results can either be reported to your doctor or nurse who will adjust your warfarin dose for you, or you can learn how to adjust the dose yourself

### Self-monitoring can increase your safety on warfarin

- Self-monitoring with CoaguChek gives an accurate result<sup>34</sup>
- With self-testing you can monitor your INR more frequently
- This can increase the amount of time your INR is within therapeutic range<sup>35</sup>
- Without increased risk for serious bleeding<sup>36</sup>

### Self-monitoring gives you the freedom and independence to monitor your anticoagulation therapy

- Regular INR testing at the doctor's office or hospital can be inconvenient for some people due to:
  - Work or family commitments
  - Transport difficulties
  - Other illnesses
  - Holiday plans

*Self-monitoring  
reduces your risk  
of blood clots*

Percentage of warfarin patients who had a major blood clot



Fig 6: Self-monitoring reduces the risk of major blood clots (Adapted from Bloomfield et al, 2011)<sup>36</sup>

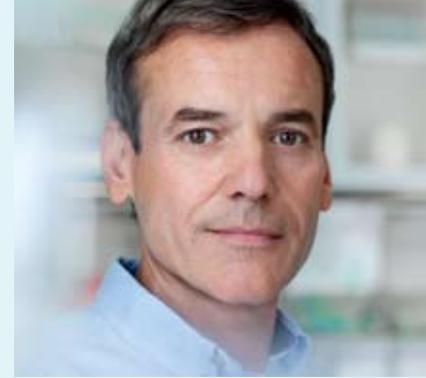


# *Worldwide more than a quarter of a million people now use patient self-monitoring to monitor their warfarin therapy*

## **With self-monitoring you can test your INR whenever and wherever you like**

- No more time consuming trips to the hospital or to your local surgery
- Don't worry about holidays – you can take your INR meter with you
- You no longer need to take time off work to attend hospital or GP appointments

**“With self-monitoring, I feel completely in control of my anticoagulation therapy”**



**“With self-monitoring, I stay within my therapeutic range”**



**“With self-monitoring, I no longer need to take the time to attend regular clinic appointments”**



*Thanks to CoaguChek® you have the reassurance and peace of mind of always knowing your INR value when needed.*

*Patient self-monitoring enables more regular checks and dosage adjustment if necessary, therefore improving the time spent within your therapeutic range.<sup>38</sup>*

*You can manage your anticoagulation therapy wherever you are, whatever you do. There's no need to change your routine to fit in clinic appointments.*

*If you want to make sure you are in complete control of your anticoagulation therapy, start patient self-monitoring to make this a reality.*

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Are you interested in monitoring your INR at home?  
Ask your doctor about more information on patient self-monitoring or  
visit [www.coaguchek.com](http://www.coaguchek.com)

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