

Resource

## How is lifespan affected by RA?

Complications such as lung complications and heart disease can have an impact on lifespan for people with RA. The good news is that with earlier diagnosis and new therapies, this impact is decreasing.

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### Introduction

This article explores the impact that RA can have on life expectancy and how this level of risk can be improved. Many factors can influence life expectancy, both for the general population and for those with rheumatoid arthritis (RA). Over the years, studies have shown that RA can shorten lifespan by an average of about ten years, the cause for this decrease is due to multiple factors, and there is an increasing impetus of managing other factors aside from physical disability and improvement of quality of life. With the advent of earlier diagnosis and new therapies, recent data suggests an increase in lifespans and in particular, newly diagnosed individuals may have equivalent lifespans to the general population. The underlying cause of mortality is being researched, and further treatment approaches are being developed.

### Will all RA patients have a shorter lifespan than people without RA?

Statistics will always be general, and there are certainly patients with RA that have lived into their 80s and 90s (and some even beyond that), so you can never be certain that your lifespan as an individual will be affected, but as with members of the general population, it makes sense to be aware of the risk factors and to look after your body as best you can, in order to minimise some of these risks.

Young age at onset, long disease duration, the presence of other health problems, and characteristics of severe RA (such as poor quality of life, a lot of joint damage on x-rays, involvement of organs other than the joints, more active disease early on and being positive for both types of rheumatoid arthritis-associated antibody (rheumatoid factor and anti-CCP)) can have an impact on lifespan. However, patients who see a rheumatologist early in the course of their disease have a better outcome. Many of these factors may be linked, and more research is needed to tease out the most important of them. Using this information, health professionals should eventually be able to identify early on which individual patients are at high risk of early death and intervene appropriately, if possible, to control the relevant risk factors. Encouragingly, a recent Dutch study compared death rates from 1997 to 2012 and found over these 15 years declining death rates on an annual basis, though compared to age and sex-matched individuals, it remained higher.

## What health conditions can affect life expectancy among RA patients?

RA patients appear to have a higher risk overall of developing serious lung or heart problems as well as infections, cancers and stomach problems.?

The reasons for RA patients being more susceptible to infections and cancers may be related to the altered function of the body's defence system (the immune system). However, as many of the drugs used for treatment of RA also have an impact on the immune system, these are also implicated.?

The following paragraphs look at each of these risk factors in more detail.

### Infection risk:

Most infections in patients with RA are not serious, and in recent years studies have shown that the more commonly used drugs (such as methotrexate, sulphasalazine and hydroxychloroquine) do not significantly increase the risk of serious infections. However, azathioprine, cyclophosphamide and corticosteroids do appear to increase the risk of infections.?

The number of "biological" therapies has increased exponentially in recent years, and although the agents are effective, there is also a small, but important increased risk in serious infections. The risk of infection is largely determined by non-modifiable factors (age, co-morbidities) and modifiable factors (corticosteroid usage, functional status).

Anti-TNF drugs and some other biologics are linked with an increased risk for reactivation of tuberculosis (TB), in people who had been exposed to TB in the past (whether they were aware of it or not), so you are likely to be screened for TB before you are able to start on this type of treatment, and if positive will require treatment.??

### Lung problems:

Involvement of the lungs occurs in 30-40% of patients with RA. Lung conditions account for about 10% of deaths in people with RA. Patients with RA may develop inflammation or scarring in their lungs which causes gradually worsening breathlessness. Breathlessness can also be due to inflammation of the blood vessels supplying the lungs, or of the membrane that covers the lungs. Other causes include getting unusual chest infections or scarring of the lungs as a side-effect of certain medications.?

### Cancer:

Like anyone, patients with RA may develop cancer, although the rates of some cancers are higher in RA than in the general population. Patients with RA have a reduced risk of bowel and breast cancer but have higher incidences of lung cancer and lymphoma (a cancer of the blood and lymph glands). On average, the risk of lymphoma is twice that of the general population. These cancers are commonest in patients with the most aggressive arthritis, who are more likely to receive the most aggressive treatments; it is therefore still not clear if the increased risk of cancer is due to the RA, its treatment or both.

Specific to anti-TNF therapies there appears to be a slight increase in non-melanoma skin cancer (a type of cancer that fortunately usually responds well to treatment), but there is no increased risk over conventional treatments for other cancers. To minimise this risk, preventative skincare and skin surveillance is advised alongside prompt reporting of any new lesions.

Rheumatologists remain cautious in prescribing “biologics” and often do not prescribe these drugs to patients who have a strong family history of cancer or have recently had cancer.

Stomach problems:

In the past, there were a large number of deaths from stomach or bowel problems (usually bleeding or perforated ulcers) most probably due to side effects of non-steroidal anti-inflammatory drugs (NSAIDs) on the lining of the stomach. However, development of other drugs that protect the stomach from the side effects of anti-inflammatories and improvements in other treatments for RA may have reduced mortality from such causes. Recent evidence suggests that anti-inflammatory drugs may also be associated with high blood pressure, kidney disease and ultimately with an increase in disease and death due to heart disease (see below).?

Heart disease:

Heart disease accounts for around a third of deaths in RA, with death from heart disease occurring in patients with RA ten years earlier, on average, than in the general population. There are multiple causes for this, but arguably the most important is ischaemic heart disease (IHD), where the blood vessels supplying the heart get furred up, making it harder for blood to reach the heart and deliver necessary oxygen to the cells. Furring of the arteries can occur in anyone, not only patients with RA, and is due to several “risk factors” including old age, male sex, family history as well as smoking, high blood pressure, high cholesterol, diabetes, increased weight and reduced exercise. This can lead to angina and heart attacks, sudden death, or heart failure. This may be more severe in people with RA than in the general population, even if they have the same risk factors. RA patients sometimes experience less in the way of warning symptoms (such as chest pain on exertion), probably because they are limited by their physical disability, or pain being attributed to other causes such as their arthritis, so may not receive the most appropriate investigations and treatment.?

The reasons for the increased frequency and earlier development of IHD in RA are not known but are being actively researched. Overall, patients with RA may have more of the traditional “risk factors” described above, but there are also other very important explanations related to the RA itself. Changes in the function of blood vessels due to the inflammation of RA, inflammation of the blood vessels themselves (called vasculitis) to the type and levels of cholesterol and altered clotting mechanisms of the blood due to inflammation or genetic differences are likely contributors.?

So, what should you be doing to help decrease this risk? Firstly, it is important to modify any traditional “risk factors”, for example, by stopping smoking, controlling high blood pressure or lowering cholesterol. Secondly, in treating the RA as effectively and early as possible, the level of inflammation should be minimised. Encouragingly there are some early signs to suggest patients more recently diagnosed with RA who receive consistent RA medication have no increased risk of dying from IHD compared to the general population, at least in the early years of the disease and that patients who

respond well to anti-TNF medication are at lower risk of a future heart attack.

A strong correlation has been seen with increased physical activity and lower cardiovascular events in patients with RA, along with improvements in weight, cholesterol levels, blood pressure and improved diabetes control.

## Conclusion

Rheumatologists anticipate that more effective control of RA will not only improve quality of life but also improve life expectancy in patients, and with databases such as the BSRBR, and similar registers across the world, the story is becoming clearer. In the meantime, here are some practical steps that can help to reduce the risks:

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- Both you and your doctor should look out for any new symptoms, such as excessive tiredness, sweats and fevers, weight loss, which could be due to RA but may also reflect chronic infection or cancer. Chest pain or breathlessness may also need to be investigated with special tests looking for heart or lung disease.
- If you smoke, you should try to stop smoking. Each year of smoking cessation (each year of being a non-smoker) is associated with a reduced risk of dying from any cause.
- You should also make efforts to control your weight and be as physically active as possible. Your doctor, in turn, should check your blood pressure and cholesterol periodically and control them if necessary.
- Both you and your doctors should consider supporting any further research addressing this important problem.

## Further reading

[NRAS information on CV risk assessment](#)

[The British Heart Foundation website \(for tips on keeping your heart healthy\)](#)

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