Rheumatoid arthritis (RA) is an auto-immune condition that affects about 0.25% of the world population (1). Inflammation in the joints damages joint cartilage and bone tissue. RA contributes to significant pain and disability, particularly in the hands and feet (2).

RA is 2 times more common in women than men. Smoking, poor dental health, poor sleep, unhealthy diets, obesity, or a family history of RA are risk factors (3). Exposure to viruses has also been implicated in the progression of RA (2).

RA can affect other organs such as skin, eyes, heart, nervous system, lungs, and blood (4). RA increases the risk of early death and other lifestyle diseases such as diabetes and cardiovascular disease (3).

Lifestyle modification, including adopting a whole food plant-based diet, lessens RA symptoms and reduces inflammation and the risk of developing other diseases (5).

**What's happening inside my body?**

**Obesity**
- Excess body fat within and around organs increases chronic inflammation (6)
- Obese individuals have a three times greater risk of developing RA (7)
- Being obese reduces the effectiveness of arthritis drug therapy (8)
- Obesity increases the risk of cardiovascular diseases (CVD) (3)

**Plant-based diet**
- Improves RA symptoms possibly by reduction of immuno-reactivity to food antigens (9)
- Remarkable decrease in pain, swollen and tender joints and inflammation (5)
- Improves joint function (10)
- Decreases risk of CVD

**Microbiome**
An unhealthy diet creates an unhealthy gut, with an increased abundance 'bad' bacteria such as prevotella copri (P-copri) and metabolites such as trimethylamine N-oxide (TMAO) (11).

P-copri bacteria thrive on choline and carnitine from meat, poultry, fish and eggs.
- An unbalanced gut microbiome reduces the effectiveness of arthritis medications
- Increases chronic inflammation
- Increases risk of CVDs

**Plant-based diet**
- Increases dietary fibre and production of beneficial short-chain fatty acids (SCFA)
- Increases microbiome diversity and balance
- Decreases risk of CVDs
The Plants For Joints trial compared RA patients eating a whole food plant-based diet to usual care (no dietary change) over sixteen weeks. Those on the plant-based intervention improved their Disease Activity Score (DAS28) by 26% (3.90 to 2.88). In addition, those on the intervention improved inflammation markers, glucose control, cholesterol, BMI and blood pressure (13).

- Just 4 weeks on a vegan diet significantly decreases inflammation, compared with a controlled omnivorous diet (14).

Evidence From RCTs and corresponding meta-analyses
- The Plants For Joints trial compared RA patients eating a whole food plant-based diet to usual care (no dietary change) over sixteen weeks. Those on the plant-based intervention improved their Disease Activity Score (DAS28) by 26% (3.90 to 2.88). In addition, those on the intervention improved inflammation markers, glucose control, cholesterol, BMI and blood pressure (13).

<table>
<thead>
<tr>
<th>What to Eat</th>
<th>What to Avoid</th>
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<tbody>
<tr>
<td>Maximise the intake of high-quality whole plant foods such as vegetables, whole grains, legumes, fruits, nuts, seeds, herbs, and spices; your health will benefit from every step towards more whole plant foods.</td>
<td>Avoid refined carbohydrates such as bakery items and snack foods.</td>
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<tr>
<td>Choose healthy omega-3 fat sources such as walnuts, flax and chia seeds.</td>
<td>Eliminate or limit all processed foods, and sugar-sweetened foods and beverages (15).</td>
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<tr>
<td>The fibre in whole-grain bread and pasta, quinoa, oats, and brown and wild rice increases your gut microbiome diversity. Some people see improvements in RA by eliminating gluten (9).</td>
<td>Eliminate red and processed meat products such as burgers, sausages, bacon, ham, salami, dried meat, canned meat, and pastrami (16).</td>
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<tr>
<td>Fight chronic inflammation with powerful antioxidants in berries, cruciferous vegetables (like broccoli), dark green leafy vegetables, and beans.</td>
<td>Eliminate or limit other animal products such as poultry, fish, eggs, cheese, and dairy.</td>
</tr>
<tr>
<td>Make sure to cover potentially critical nutrients with a wide variety of plant foods, enriched foods/drinks, or supplements (especially vitamin B12 and vitamin D).</td>
<td>Avoid saturated fats, from both animal and plant sources as much as possible.</td>
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References