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| 1. Common Joint Conditions | |  |  |
|  | **Osteoarthritis**: Wear and tear of the cartilage between the joint and a reduction/thinning of fluid in the joint space. This leads to pain, inflammation and reduced mobility. | | |
|  | **Injury/sports injury**: Pain, inflammation and swelling, along with reduce mobility caused either by acute injury or repetitive pressure on the joints. | | |
|  | **Rheumatoid Arthritis** : An autoimmune condition. The immune system attacks the cells of the joints making them stiff and painful. | | |
|  | **Systemic inflammation leading to joint pain** : If the body is an inflammatory state, this can trigger pain which is often felt around the joints. | | |

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| 1. Contributing Factors to Joint Conditions | |  |  |
|  | **Systemic Inflammation** : A diet high in sugars, omega 6 fats and fried foods can contribute to systemic inflammation in the body. A symptom of this can be unexplained joint pain | | |
|  | **Weight** : There is a proven association between obesity and osteoarthritis with a greater risk of joint problems in people that are overweight. | | |
|  | **Menopause** : Oestrogen can have an inflammatory balancing effect. As oestrogen levels fall with menopause, many women experience joint pain as inflammation. | | |
|  | **Advancing age** : The risk of developing osteoarthritis increases with age due to wear and tear and degeneration of cartilage. | | |
|  | **Immune system :** An imbalanced immune system is the cause of rheumatoid arthritis. | | |
|  | **Sports/Activity :** Repetitive activity can cause wear and tear to the joints. Activity may also increase the risk of injury. | | |

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| 1. Supplement Considerations | |  |  |
|  | **Omega 3 Fish Oils** : Western diets tend to be higher in Omega 6 fats that are pro inflammatory.  Inflammation is a factor in all joint conditions and so a higher omega 3:6 ratio is important. Suggest that your client eats three portions of oily fish per week or takes a high quality fish oil supplement | | |
|  | **Hyaluronic Acid** : Hyaluronic acid is an important component of the synovial fluid between the joints, it plays a lubricating role and can reduce friction | | |
|  | **Glucosamine and Chondroitin** Glucosamine sulphate is an important building block needed by the body to manufacture glycosaminoglycan, a mucopolysaccharide found in cartilage and other structural connective tissue. As people age their ability to produce glucosamine reduces and this may reduce the protective effect of cartilage. Many studies have looked at the benefits of glucosamine and chondroitin.In one study there was evidence of a beneficial effect of glucosamine and chondroitin delaying knee osteoarthritis structural progression | | |
|  | **Curcumin.** Curcumin is the most researched natural remedy for pain and inflammation. Curcumin has the ability to modulate many inflammatory pathways. Results have shown that a curcumin extract delivered comparable benefits to standard pain relief medication for pain due to excessive physical activity, minor injury or chronic pain, with fewer side fewer side effects than standard medication. Curcumin may be particularly suited to oestoarthrits or sports injuries. | | |
|  | **Other botanical anti-inflammatory agents.** Boswellia and gingerare further natural agents with anti inflammatory properties, often used in formulas alongside curcumin | | |
|  | **Vitamin D and probiotics**. These should be considered for RA due to their role in modulating the immune system | | |
|  | **Collagen or vegan collagen builders.** Collagen is a key component of cartilage. Studies have shown that taking a collagen powder orally can protect and strengthen cartilage. Consider recommending collagen for osteoarthritis other join pain caused by wear and tear. As collagen is an animal product, it is not suitable for vegetarians or vegans. The alternative is Vitamin C which helps in the production of collagen | | |

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| 1. Diet and Lifestyle Considerations | | |  |  |
|  | | If weight is an issue, then this should be addressed. A referral to a nutritional therapist is usually the best approach so that a personalized, detailed plan can be provided. | | |
|  | | Movement is important to keep joints and ligaments flexible, strength exercises will support the muscles around the joint. It can be a challenge to find the right level of movement due to restrictions. Try to refer to local physios. PTs or yoga teachers that specialize in this | | |
|  | | Foods that are high in omega 6 should be reduced as these can contribute to inflammation. This includes fatty meats, fried foods, animal fats and oils | | |
|  | | Alcohol and sugar foods can also contribute to inflammation | | |
|  | | Oily fish should be increased, ideally to 3 portions per week. Smaller fish – anchovies and sardines contain less contaminants. Other good sources of omega 3 are freshwater trout, wild caught Alaskan or pacific salmon, and north Atlantic mackerel | | |
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|  | | **References :** Obesity and Oestoarthrits [Obesity and osteoarthritis - PubMed (nih.gov)](https://pubmed.ncbi.nlm.nih.gov/27180156/)  2. The complex role of estrogens in inflammation [The complex role of estrogens in inflammation - PubMed (nih.gov)](https://pubmed.ncbi.nlm.nih.gov/17640948/) | | |
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