

## Diet & Rheumatoid Arthritis

Editor's note: The following article is based on a review article titled "Modulation of immune function by dietary lectins in rheumatoid arthritis" published in the *British Journal of Nutrition* in 2000 by Loren Cordain, L. Toohy, M. J. Smith and M. S. Hickey.

Rheumatoid arthritis (RA) affects approximately one percent of the adult population, and females are two to four times more susceptible than males.<sup>1</sup> This disease is characterized by persistent inflammation of the synovium, (a membrane lining in freely moving joints that secretes fluid), destruction of bone and cartilage, and possible functional disability.

Numerous case studies have shown that RA symptoms can be alleviated with grain-free diets.<sup>2-5</sup> Likewise, withdrawal of food during fasting has reduced aspects of the disease.<sup>6</sup> A more recent experiment also showed significant improvement in sore joints when RA patients followed an elemental diet (a purified diet of amino acids, sugars, fatty acids, vitamins and minerals) for three weeks.<sup>7</sup> In the only controlled study of elemental diets to treat RA, patients showed improvement in grip strength.<sup>8</sup>

This link between diet and RA may depend on substances crossing the gastrointestinal barrier and entering circulation. In genetically susceptible individuals, this may

result in RA symptoms. There is considerable evidence that intestinal permeability may be increased in patients with RA,<sup>9-10</sup> particularly when the joint disease is active.<sup>11</sup> Patients with RA have also shown a high frequency of intestinal bacterial,<sup>12</sup> particularly anaerobic bacteria.<sup>13-14</sup> Although this connection is not entirely clear, there is convincing evidence that antibiotic therapy helps rheumatic activity.<sup>15-16</sup>

**The Lectin Connection** - Common dietary staples, such as cereal grains, beans, and legumes, contain lectins. Lectins have anti-nutritional properties that influence enterocytes (cells that line the intestinal wall) and lymphocytes (cells in the blood, lymph, and lymphoid tissues).<sup>17-18</sup> Because lectins are able to cross the gastrointestinal barrier rapidly and enter circulation intact,<sup>19</sup> they may be able to interact directly with synovial tissue that is impacted during RA.

Many lectins derived from bean species negatively affect intestinal structure and function.<sup>20</sup> Lectins from peanuts produce similar results.<sup>21</sup> Lectin activity has also been found in wheat, rye, barley, oats, maize<sup>17</sup> (corn) and rice.<sup>22</sup>

**In Conclusion** - These studies indicate that eliminating lectins may help alleviate RA symptoms. Because the Paleo Diet focuses on foods that our Paleolithic ancestors were likely to eat, cereal grains, beans and legumes are all replaced

with healthier choices.

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References truncated, please email NOHA at [editor@nutrition4health.org](mailto:editor@nutrition4health.org) to obtain complete references.

1. Grossman JM & Brahn E (1997)
2. Shatin R (1964)
3. Williams R (1981)
4. Beri D, Malaviya AN, et.al (1988)
5. Lunardi C, Bambara, et al(1988)
6. Kjeldsen-Kragh J, et al. 899-902.
7. Haugen MA, et al. (1994)
8. Kavanaghi R, et al. (1995)
9. Katz KD & Hollander D (1989)
10. Mielants H (1990)
11. Smith MD, et al. (1985)
12. Henriksson AE, et al. (1993)
13. Benno P, et al. (1994)
14. Eerola E, et al. (1994)
15. Trentham DE, et al. (1995)
16. O'dell JR, et al. (1997)
17. Liener IE (1986)
18. Pusztai A (1993)
19. Pusztai A, Greer F & Grant G (1989)
20. Liener IE (1986)
21. Ryder SD, et al. (1992)
22. Tsuda M (1979)

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