The reader must pay particular attention to:

(a) The dietary deficiency of alkaline residue foods

(b) The functional enquiry and physical examination that reveals the presence in each of representative findings of the "A and D vitamin and mineral deficiency syndrome"

(c) The non-toxicity of the dosage of the A and D vitamins that are prescribed in dosages that are 12 to 15 times the recommended dosage. Moreover, approximately 50% of the dosage is given in water-soluble form.

(d) The resolution of the findings of this syndrome as the arthritis resolved.

DOSAGES OF THE A AND D VITAMINS. (While the case histories do not detail reduction of these initial dosages to maintenance 1/2 to 1/3 of this amount. This was the usual rule when good resolution was attained.)

<table>
<thead>
<tr>
<th>NAME</th>
<th>AGE</th>
<th>VITAMIN A</th>
<th>VITAMIN D</th>
</tr>
</thead>
<tbody>
<tr>
<td>De Kort</td>
<td>70</td>
<td>60,000</td>
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</tr>
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<td>Horsman</td>
<td>61</td>
<td>35,000</td>
<td>5,200</td>
</tr>
<tr>
<td>Neulings</td>
<td>70</td>
<td>40,000</td>
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</tr>
<tr>
<td>Van Boeschoten</td>
<td>62</td>
<td>54,000</td>
<td>7,200</td>
</tr>
<tr>
<td>Worthington</td>
<td>80</td>
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Similar near spectacular results are obtained in this therapy of rheumatoid arthritis, chronic bronchial asthma and in forms of intestinal disease such as Crohn's disease.
CASE HISTORY - OSTEO ARTHRITIS

Mr. Frank, aged 70 years

HISTORY: This patient was first seen in 1975 complaining of severe pain in his right sacro-iliac region while walking and occasionally while sitting. He had had a lumbar disc surgery in 1961. He stated now he could hardly walk one hundred yards and he used a cane around the house. He had weakness and stiffness of his legs and his left leg swelled occasionally from his ankle to his knee.

OTHER FUNCTIONAL INQUIRY: This revealed that he was occasionally constipated. He drank no milk and ate sparingly of butter.

PHYSICAL EXAMINATION: Blood pressure 130/80, rate 110, absent patella tendon reflexes and moderate tenderness of his soleus muscles on palpation.

THERAPY: He was given a halibut liver oil, a cod liver oil capsule and half gram bone meal tablet and three drops of Aquasol A & D and 200 units of vitamin E three times daily.

PROGRESS: By December 1975, the man stated that 95% of his pain was gone, that it was a miracle! He had more energy and his leg swelling was gone. His legs were still stiff and weak.

Over 1976-77- and 1978 the man felt that he was improving gradually. When last seen in May of 1982, he stated that he was very comfortable and that he could mow the lawn with no problem. He experienced one episode of back and hip pain which was relieved by a hot bath.

DISCUSSION: This now seventy year old man has experienced relief of osteo-arthritis symptoms which began relatively acutely and age sixtythree. The inflammatory osteo-arthritis process likely involved lumbar-sacral region, worse in the area prior to disc surgery.
CASE HISTORY - OSTEO ARTHRITIS

NAME - Mrs. M. Van

AGE - 69

HISTORY:

On the first visit in June 1975, she had severe pain in her knees beginning in October 1974. Prior to that, these joints were asymptomatic. She was hospitalized in December of 1974 for intravertebral lumbar disc degeneration causing sciatic pain down the left leg. Over 1975, the shoulders also became involved. She now walks with canes with great difficulty.

FUNCTIONAL INQUIRY:

Also reveals that she has occasional cramps in her legs. In reference to her diet, she drank no milk for many years, but recently has began to drink 3 glasses of milk.

PHYSICAL EXAMINATION:

As mentioned in the above, the patient walked with great difficulty with two canes. The knees were moderately swollen, and flexion was limited by pain.

THERAPY:

In therapy she was taking 25 mg of Indocide b.i.d. and diuretics and potassium supplements.

In nutritional therapy she had been taking some wheat germ, some vitamin E and some bone meal tablets, alfalfa, kelp and B and C complex t.i.d.. In additional therapy I advised 2 halibut liver oil capsules and 6 drops of Aquasol A & D t.i.d..

PROGRESS:

Six weeks later: She said her knees were just as painful but she felt stronger and healthier. In additional therapy she was instructed to take 1/2 g bone meal and 400 units of vitamin E t.i.d..

Three months later: She stated that she had discontinued using the canes for the past week and all the inflammation was out of her knees. She was walking much better but still could not kneel. She stated that her shoulders were less painful. She still experienced weakness in the muscles in her legs.
After Six Months: She stated that in the late Fall she had been able to work in the garden. She still had some residual knee, shoulder and neck pains.

February 10th, 1976, after 8 Months: She stated that she had no pain in her legs but her legs were weak. Her neck was perfect, but her shoulders were slightly to moderately painful.

Eleven Months Later: During a wet Spring, she stated that she required Indocid at bedtime for pain in her right knee.

After Fifteen Months Therapy: She did all her gardening and in time took Butazolidin 100 mg daily at lunch and supper time.

In August 1977, After Two Years and Two Months Therapy: She stated that she had been to Holland on an extensive holiday at the end of March, with only the slightest of pain in her legs. She no longer required Indocid suppositories and her current therapy consisted of 5 drops of Aquasol A & D, 1 halibut liver oil capsule, two bone meal tablets and one brewer's yeast t.i.d. and Butazolidin 100 mg b.i.d.

DISCUSSION:

As this case illustrates, arthritis is a mineral and vitamin deficiency in an individual and the gradual resolution of inflammatory reaction about senile osteoarthritis on specific therapy with A & D vitamins but with some support of anti-inflammatory drug therapy.

October 4th, 1978: She stated she had not taken Aquasol A & D over the previous three months and experienced pain in her shoulder but not in her legs. This resolved once she resumed therapy with this product at a dose of six drops three times a day. On December 4th, 1978, she had an episode of left sided sciatica following a twisting back movement whilst she was lifting a heavy object.

PROGRESS REPORT: In late 1979 she developed a facial rash due to her B complex vitamins and brewer's yeast. She was seen by an allergist who also judged that she was allergic to tomatoes. The rash subsided gradually after discontinuing these vitamins. She continued to take her A & D vitamins and bone meal tablets. She has had no recurrence of arthritic pains and was reported by another of my patients, one of her friends, that Mrs. Van Boeschoten had been seen carrying heavy trays during a Dutch ethnic club dinner! As indicated, in the introductory paragraph of this case history, when first seen in 1975 she walked with canes with great difficulty.

This patient died December 1980 at age 71 years, of a stroke but without arthritic symptoms.
CASE HISTORY - OSTEO-ARTHRITE

DE  , William - aged 70 years

HISTORY: This seventy year old man seen first a year and a half ago, complained of constant back pain for years, quite severe, also considerable pain in his left hip and knees.

OTHER FUNCTIONAL INQUIRY: This reveals that he has occasional finger cramps, that his legs tire excessively and that he has frequent gas. In reference to his diet he drinks no milk and does eat margarine.

In 1975 he had a colon resection for carcinoma.

PHYSICAL EXAMINATION: This was essentially negative.

THERAPY: In therapy he was provided with two halibut liver oil capsules, one cod liver oil capsule, six drops of Aquasol A & D three times a day and half gram bone meal three times a day, 400 units of vitamin E once daily.

PROGRESS: Four months later on March 15th, 1981, he stated that the pains were less.

On this date and six times during the remainder of 1981, he was seen and given a repeat B12 injection.

In July of 1981 he stated that his pains were fifty percent relieved and that his energy was good.

In May 1982, he states that he now experiences only rare knee pain and practically no pain in his back or hip.

He now experiences only rare finger cramps and his legs are very much stronger. He stated that each time he received a B12 injection, his energy was improved.

DISCUSSION: This case illustrates rather a severe degree of pain due to encroaching osteo-arthritic process accompanied with fatigue and weakness which major and which major and lesser complaints were practically completely relieved by vitamin therapy. This therapy was largely designed to relieve the calcium and vitamin A & D deficiency enforced by a diet which included no milk products.
CASE HISTORY - OSTEO ARTHRITIS

B Mae aged 64 years

HISTORY: This sixtyfour year old woman, a cook, working in construction camps, worked until 1952 at this occupation, at which time she quit because of her increasing pain.

She had a left hip replacement five years ago because of osteo arthritis, with good results, however, this site has again begun to give her considerable amount of pain.

She has experienced pain in her right hip joint, of and on over the past years however, this has become very severe over the summer of 1982, so that now she cannot lie on her hip, and she limps while walking and her hip area is even tender to touch.

She also has developed considerable lumbar sacral pain.

OTHER FUNCTIONAL INQUIRY: This reveals that she has considerable gas and bloating. She drinks approximately one glass of milk and that only over the last three years. Prior to that she drank less milk than this. She eats butter.

She also experiences paraesthesia of her left arm, otherwise has no other functional complaints.

PHYSICAL EXAMINATION: This revealed a salivary pH in the area of 6.0. Her fingernails were considerably ridged.

THERAPY: In therapy I prescribed two halibut liver oil capsules, two bone meal tablets three times a day, and nine drops of Aquasol A & D twice daily. I also advised her to parttake of an alkaline diet.

PROGRESS: On February 11th, 1983, one month after beginning therapy, she stated that she had experienced excellent resolution in the above-mentioned three sites of pain to the degree that she now could walk very much better etc.

PROGRESS May 6th, her improvement is maintained so that she has no pain at night and is walking stairs very well.

She notices relief of indigestion and bloating on taking Viokase digestive and is dependent on them for the continued improvement of this complaint.

She returned to her job as a camp cook!
CASE HISTORY - RHEUMATOID ARTHRITIS

TW  Mr. Thomas

HISTORY: This farmer, seventyone years of age when he first saw me in 1976, had experienced only mild arthritic pains in his left thumb at an old fracture site, until the fall of 1975. At that time he developed acute arthritis in his knees and his back and hands. He became very stiff and weak, could hardly get out of a chair and could hardly get out of the bathtub.

Therapy consisted of pain pills.

OTHER FUNCTIONAL INQUIRY: He was constipated while taking Aspirin, drank sparingly of milk over his lifetime and ate margarine.

PHYSICAL EXAMINATION: He walked with a shuffle and after struggling into a standing position from being seated, he would stand mildly stooped. His hands showed changes of early rheumatoid arthritis and his wrists were grossly swollen and fixed. As well his tongue was moderately coated. He had increased tenderness of his soleus muscles on palpation and possible increase in patellar tendon reflexes.

THERAPY: He was advised to limit his starch intake and to eat more protein and vegetables. I advised him to take two cod liver oil capsules, one halibut liver oil capsule, half gram of bone meal, six drops of Aquasol A & D and 200 units of vitamin E three times a day, also a B complex and C capsule once daily.

PROGRESS: One week later he stated his hands swelling was less and that he was able to get up from a chair more easily. His constipation had improved on the first day of taking therapy he was "perfect." However, on the second day he had headaches and increased pain.

One week later he was advised to reduce his dosage during the summer months and he left for Manitoba.

1977 After one year of therapy: He stated that he was feeling well and able to shingle the barn over the last summer.

After one year and a half of therapy: A neighbour reported that he was so well he was able to do mechanic work laying under a tractor all day.

<table>
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<th>Laboratory 1976</th>
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<tr>
<td></td>
<td>ESR</td>
<td>36</td>
</tr>
<tr>
<td></td>
<td>ESR</td>
<td>3</td>
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1978 After two years therapy: He stated he could do anything and demonstrated his ability to get out of a chair normally. He stated that he was able to repair his tractor working strenuously with tools without any problem in his hands.

In therapy he was taking the above-mentioned A & D vitamins twice a day and the B complex and C vitamins twice a day.
1980  In July of this year, at age 75 years, and four and one half years after beginning therapy, the patient stated he was active and doing everything. He was able to get out of the bathtub and up from a chair slowly but easily.

He had not taken any Aquasol A & D for two months and had only taken cod liver oil capsules and halibut liver oil capsules and bone meal tablets twice daily and vitamin E and B complex on alternate days.

On This Date  This case represented resolution of rheumatoid arthritis previously present to a marked degree, as advanced age is experienced!

1981  January 5th  His improvement persists.

1982  January  The patient has been contacted by mail in order to have a repeat sedimentation rate performed. An ESR of 24 in July of 1980 likely was premonitory or a recurrence of his arthritis and was due to his discontinuing the taking of Aquasol A & D drops two months prior to that date. The resumption of that dosage likely caused this to normalize again. A repeat ESR was 20 mm.

1983  In January he stated that he himself "cannot believe that he remains so well!"

CONCLUSION:  The association of this case of rheumatoid arthritis with a lifetime diet deficient in natural milk products, indicates that one of the major causative factors in this disease was dietary deficiency and adaptive demineralization of the skeleton.

Constipation, coated tongue, increased tenderness of muscles, etc., represents support evidence of the effect of this chronic deficiency.

Increased pain and headaches on the second day of therapy may represent a degree of Herxheimer's 'reaction', which will arise if protozoal infection was a second factor in the etiology of the disease.

During the last visit his daughter brought a photograph of the patient which was taken by his wife. This photograph shows him at the top of at least a thirty foot ladder, repairing a TV aerial!
CASE HISTORY - RHEUMATOID ARTHRITIS

Mr. Leonard aged 40 years

HISTORY: This forty year old man first developed signs of rheumatoid arthritis at age nineteen, experiencing four to five flare-ups in the past twenty years. He currently experiences no loss of time from work but has constant pain, working as a mechanic.

In the past, X-rays were negative. Past therapy included Aralen for about five years and more recently Indocid both of which were discontinued.

In his acute spells he will experience pain anywhere in his back, hips etc. so that he can hardly walk. The pain in steadiest in the shoulders and hands causing him considerable problems while driving.

In a recent acute spell over the past three weeks he was on crutches for four days because of very severe pain in his hips and currently his right thumb is so painful he can hardly open a door.

OTHER FUNCTIONAL INQUIRY: He is very fatigued and so requires a sleep at noon time. He has had frequent cramps in his calves occurring two to three times a month. He has lumbago-like pain in his back over the past six or seven years. His buttocks ache while sitting and he experiences some chest cramps.

In reference to his diet he drinks about two quarts of whole milk a day and eats butter.

He states he is becoming considerable depressed.

PHYSICAL EXAMINATION: This revealed a salivary pH of 5.0 to 5.5. The soleus and trapezius muscles were exceedingly tender to moderate pressure. His fingernails were thin.

TREATMENT: He was advised to eat an alkaline diet and I prescribed three bone meal, two fish oil and eight drops of Aquasol A & D three times daily and I advised him to reduce his milk by fifty percent.

PROGRESS: In the middle of September, approximately five weeks later he stated that he was the best he had been in the past six months. His constant shoulder pain was relieved to the point that he could now sleep lying on his side. The pains of his hands were less whilst working. The cramps in his legs had disappeared. He had one slight spell on increased pain last week which only lasted one day.

THE DINARY EXCEPTION!! THE DEFECT MUST BE ONE OF UTILIZATION.
CASE HISTORY - OSTEO ARTHRITIS

NAME - Mrs. A.
AGE - 66

HISTORY:
This woman has developed increased arthritic pains of her knees over the last 2 - 3 years until the condition has been quite disabling causing considerable pain in walking etc. She also has some moderate pain in her lumbar sacral region of her back.

FUNCTIONAL INQUIRY:
Functional Inquiry also reveals that she has stomach gas, she is constipated, and in the past an x-ray has revealed the presence of a small ulcer. She is fatigued and suffers from insomnia which she takes Dalmame 30. She previously had hypertension.

PHYSICAL EXAMINATION:
The knees were essentially negative. Blood Pressure is 130/75. The skin was dry. Fingernails were cracked and palpation of soleus muscles elicited moderate to marked increased of tenderness.

THERAPY:
In therapy she was prescribed $\frac{1}{4}$ g of $\frac{1}{2}$ g bone meal tablet, 1 halibut liver oil capsule, and 5 drops of Aquasol A & D t.i.d.

PROGRESS REPORTS:
On September 8th 1976, After Six Weeks: She stated that her knees and her back were very much improved, so that she could walk well, and that she had less pain in shopping then she had ahd in 3 years. She can bend without causing back pain. She also stated that she was sleeping better and that her intestinal gas was better.

Progress reports over the subsequent ten months to November 1977, indicated that she experienced less aching of her knees and back before winter storms. Her energy was better and she required no more H.S. sedation. On her last visit she said that she was perfectly well!

IMPRESSION:
This case is illustrative of the association of pre senile osteo arthritis with dietary deficiency and the resolution of the inflammatory with mega doses of the A & D vitamins and minerals.