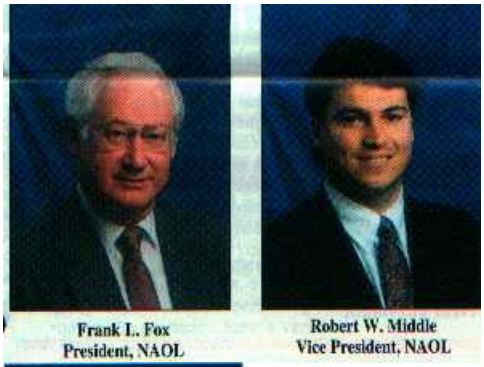
Volume 9 Issue 3

Clasping Removable Appliances



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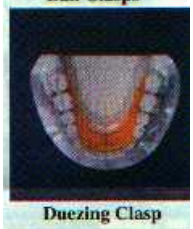
Duezing Clasp

Duezing & Curved Ball Clasps

Adams, Triangle & Ball Clasps



Duezing Clasp

An important dimension of all removable orthopedie and retaining appliances are the type of clasps incorporated in the appliance. The design of the clasp may effect maximum retention and compliance.

The type of clasps that will be covered in this article are: Adams, ball, finger, triangle, C, and Duezing clasps. All of these clasps can be used in different situations. The main factors in choosing a specific clasp depend on the clinical crown height, edentulous areas and interproximal spacing. The Adams clasp is an excellent clasp in mixed and permanent dentition. The key to choosing an Adams clasp is adequate crown height mesial and distal of the appropriate tooth. The Adams clasp comes in two sizes — short and long. The size tells the height of the gingival ears of the Adams clasp. The ears can be adjusted toward the mesial gingival and distal gingival for additional retention. The transverse bar is adjusted using the three jaw plier, and the ears are adjusted using a weingard plier.

In many cases the distal portion of a tooth is gingivally submerged. In these cases, an Adams clasp cannot be used. The ideal clasps in this situation, are ball clasps and finger clasps. These clasps only cross the mesial portion of the molar or premolar. The ball clasps and finger clasps pick up interproximal and gingival retention. These clasps are used in the mixed dentition and permanent dentition with short crown height.

Triangle clasps are similar to the ball and finger clasps. Triangle clasps are used when you have good clinical crown height. This clasp provides extra retention in the permanent dentition.

The C-clasp is used, in most cases, crossing the aveolar ridge distal to the most posterior tooth, curving buccal Clasp gingival around the molar, stopping at the mesial interproximal contact. The C-clasp is ideal when crossing the occlusal surface with a clasp interferes in the patient's bite. The C-clasp can be used on any tooth in the arch that has adequate interproximal clearance.

The Duezing clasp is similar to the C-clasp. The only difference is, instead of stopping the clasp at the mesial interproximal contact, the Duezing clasp doubles back from the mesial to distal. This gives an additional buccal wire for extra retention.

All cases sent to NAOL are analyzed to determine the appropriate clasp in the above situations. Choosing the correct clasp will improve appliance retention and patient compliance.

For assistance in designing your appliances, feel free to contact Frank Fox or Bobby Middle at 1-800521-2351.

MAGNESIUM, THE NATURAL TRANQUILIZER By Dr. Ron Shuler

Dr. H. DeWayne Ashmead states, "Since a magnesium deficiency produces many of the

symptoms for which tranquilizers are prescribed, it seems logical that providing additional magnesium to the body may relieve many of the symptoms that tranquilizers treat. In this case magnesium would act as a natural tranquilizer without having the side effects of the drugs that are often prescribed." Also in the area of veterinarian medicine, they have found that animals, particularly racehorses, that have a higher than normal nervous condition, had a low level of magnesium in their blood, and this was counteracted by magnesium supplements. In another report, conducted by Albion Laboratory participants, a four year study was taken of crops grown in 11 midwestern states. The result was that the overall mineral content decreased from year to year. Magnesium decreased 22%.

As I begin to research this mineral, I ask myself the question, "Could magnesium deficiency be a factor in muscle spasm headaches, jaw dysfunction, tension, etc.? As I continue to study magnesium, I am discovering that it provides the environment in the extracellular fluid of the nerve cells to promote the conduction of nerve impulses and to allow normal muscle contraction and relaxation. In this situation, magnesium and calcium play antagonistic roles, with calcium acting as a stimulator, and magnesium as a relaxer. If there is a deficiency, on the cellular level of magnesium, it could effect the blood vessels, and also the neuromuscular contraction of every muscle in the body. The craniomandibular complex may be effected by this deficiency, causing the muscles of mastication to be in a neuromuscular spastic state. Research also indicates that magnesium deficiency may cause sodium and potassium to have a tendency to remain around the nerve, causing the excitation of these minerals, when they should be at rest. Approximately 60% of the body's magnesium is in the skeleton and 40% in the muscles where the remaining tissue has about 1% in its extracellular fluids. Over 300 different enzymatic activities require magnesium to perform their biological activity in the body, including the production of energy and the proper function of nerves and mus- cles.

In addition to the enzymatic reactions eluted to, magnesium is necessary for the synthesis of certain amino acids, maintenance of DNA, and RNA, aids in building lung and nerve tissue cells, gives strength to bones and teeth, and helps regulate blood pH. One of the most vital muscles in the body, the heart, is dependent upon magnesium for its proper functioning. Recent studies from Harvard Medical School indicates that deficiency of magnesium has an Additional research shows that 160mg of magnesium, as an amino acid chelate, causes a significant reduction in platelet adhesion. When platelets clump together they could possibly be partly responsible for some of the acute myocardial infarcts. One of the world authorities on magnesium is Dr. Mildred S. Seelig, who has conducted over 50 years of research on this mineral. In the August, 1993 issue of "Journal of the American College of Nutrition", Volume 12, Number 4, page 442, Dr. Seelig relates magnesium to cardiovascular and bone disorders, eclampsia, migraine and premenstrual syndrome relationship of headache. She lists 296 medical references relating magnesium deficiency to these conditions. Also in the recent issue, April 1994, Volume 13, Number 2, there are two articles, showing new evidence, of the relationship of magnesium deficiency, acute myocardial infraction and coronary artery disease.

To determine the level of magnesium in my joint dysfunctional patients, I am conducting an intracellular test developed by Dr. Burton Silver. a NASA Resource Consultant Scientist. This test measures the magnesium on the inside of the cells using computerized Electron Microscopy. A cytological smear of the epithelial cells is taken under the tongue, and then placed on a prepared slide. The epithelial cells have a four day turn over and better assess the patient's current magnesium level. Through this assessment, 1 have found that patients who are experiencing neuromuscular spasticity, have a very low magnesium level, and interesting enough, their phosphorus is high, which we know has a tendency to drive magnesium out of the cells, further effecting the level of magnesium. These patients are then put on a amino acid chelated magnesium supplement and the test is re-administered in four weeks. In every case there has been a notable shift to the normal range and subjectively the patients experienced less headaches and improved overall well-being.

An interesting study was performed, using surface electromyography. The patient had a 6.1 micro-volt in a rest position of the left temporalis anterior. He was given 120mg of branch chain amino acid chelated magnesium and the surface energy dropped to 3.6 microvolts in 30 minutes, 3.1 micro-volts in one hour and 2.2 micro-volts in one and one-half hours, which in my opinion, further supports the suggestion that magnesium deficiency plays an important role in neuromuscular spasm conditions.

(See figure 1 for intestinal absorption of mg from various sources in vitro, Graff, D.c et al)

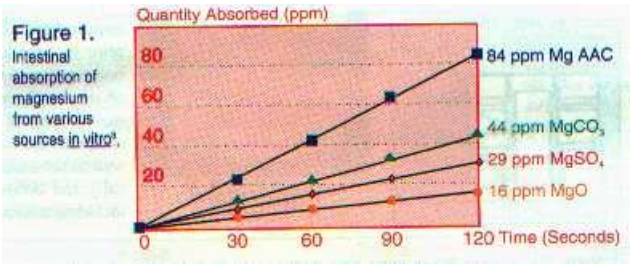


Figure 1. Intestinal absorption of magnesium from various sources in vitro[a].

As Dentists, I feel we have the responsibility, and should involve ourselves, in the field of nutrition, particularly as it relates to neuromuscular spasms and jaw dysfunction. In addition, we should be

just as concerned with our own health. Our profession carries a lot of stress and makes us more vulnerable to magnesium deficiency.

If you are interested in acquiring more information on the Intracellular testing or would like to experience this patented chelated form of magnesium call 1-816-827-1212 or 1-800-473-8538.