Bio-Progressive Therapy, Part 1: The Management Umbrella

VOLUME 11 : NUMBER 09 : PAGES (616-627) 1977

RUEL W. BENCH, DDS
CARL F. GUGINO, DDS
JAMES J. HILGERS, DDS

Bio-Progressive Therapy is not strictly an orthodontic technique but, more importantly, it encompasses a total orthodontic philosophy. Bio-Progressive Therapy accepts as its mission the treatment of the total face rather than the narrower objective of the teeth or the occlusion. Although the teeth and the occlusion are of critical importance in achieving the broader goal of treating and improving the face, orthodontic therapies must be designed to be applied appropriately to specific facial types, muscular patterns, and functional needs of individuals. A primary concern, therefore, is the musculature of the chin and lips and the function of the tongue as its posture reflects the respiratory needs of the individual.

The relationship of the jaws to each other, with the resulting convexity or concavity of the profile, suggests the orthopedic alteration that will be required to achieve the desired result. The progressive unfolding of these arches, in conjunction with the purposeful alterations resulting from orthodontic therapy, combine to produce the desired outcomes as they relate to aesthetic effect and occlusal and respiratory function. Basic to an understanding of these potential changes is the dynamics of growth and function under normal relationships with an appreciation for a range of variation from the normal as applied to the individual with his specific needs and potential.

Since this is the first of a series of papers, which will take the reader from an understanding of that philosophy through the specific techniques considered essential to Bio-Progressive Therapy, it is appropriate to pay tribute to the man who was responsible for the development of this approach to orthodontic care, Dr. Robert Murray Ricketts. Over the years, he has combined an insatiable intellectual curiosity with superior skills in the mechanical aspects of orthodontics. Dr. Ricketts' orthodontic philosophy and therapy involves a broad concept of total treatment, rather than a sequence of technical and mechanical steps. Referred to as Bio-Progressive Therapy, it takes advantage of biological progressions including growth, development, and function, and directs them in a fashion that normalizes function and enhances aesthetic effect.

Management Umbrella Concept

The initiation of this series with a discussion of management at the beginning rather than at the end is a purposeful clue to its implicit importance in the concept of Bio-Progressive Therapy. In fact, Bio-Progressive Therapy functions well within an efficient management system and management should not be considered an add-on component to a series of technical procedures. The management of the total practice ultimately determines the degree of efficiency and effectiveness with which the orthodontist solves individual patient problems.

Knowledge of theory and skilled application of technique provide the basis for orthodontic practice, yet success depends on the achievement of the additional objectives of administrative

efficiency, procedural control, and quality assurance. The methods of systems engineering, operations research, and management science, when applied to orthodontics, produce innovative practice designs and procedures that increase both the effectiveness of service and professional satisfaction .

In this paper we are going to cover a basic management system, and apply these principles to a diagnostic and treatment design system. In thinking about management, we begin to think about the evolution of the orthodontist. Most orthodontists are natural leaders who have been trained to a high level of technical ability. They will often develop technical systems as a natural outcome of their training and ignore the essential management activities that provide the environment for the expression of their technical aptitudes. As is usual in the evolution of a natural leader, the orthodontist begins his practice by acting spontaneously and personalizing his organization to himself. Communication is in one direction only, from the orthodontist to his subordinates and patients. He controls everything through

personal inspection to make sure that all is going well. As his office organization becomes larger in response to a growing practice, he passes to a transitional stage. The increase in volume has caused him to add more personnel to his organization, often without a corresponding increase in income. He has, in fact, reached a crisis which is akin to being in a corridor between two rooms. He must decide to go back to the situation in which he can follow all activities through personal inspection or go forward and make a commitment to learn something about management.

Management skills are not limited to those who maintain a high volume practice. They result in efficiency and quality control in practices of any size. When you begin to think about management in an office, you think of technical systems. Technical systems cannot function efficiently and have any great longevity unless they operate under a total management system or umbrella.

Management is a unique skill. It is the ability to get other people to work with you and for you, to accomplish common objectives. In an orthodontic practice, getting the subordinates to work with you and for you is to treat the patient to a happy ending, and to manage the patient so that he gives full cooperation in his treatment.

Management System for Orthodontists

A management system for orthodontists would include the following three things:

1. Quality-- This would be the quality of our result.
2. Quantity-- This would be the number of patients that we treat.
3. Effectiveness-- This would be the effectiveness of our treatment design and office management.

A good management system would allow us to increase all of these at the same time. Naturally, a system proceeds from some basic premises, which underlie the approach selected. The basic premises are the reasons we feel that management with technical systems developed under it is of utmost importance. Our basic premises are as follows:

1. Our primary goal in orthodontics is satisfactory outcome. Diagnosis and treatment management is really the means to the end. Results come first. The question is how do we get our results.
2. The practice of orthodontics in the future may be different from what it is today or has been in the past. Practice efficiency has always been important but it is of the utmost importance today because of the increasing difficulty in attracting patients, due to an increase in orthodontists and a decrease in the birth rate; the control of third-party programs; and the rapid acceleration of the cost of operation.
3. Orthodontics, being the oldest specialty in dentistry, should be the leader in initiating true preventive procedures for the future.
4. Early treatment has to be a part of futuristic orthodontic planning since it is essential to preventive procedures.
5. The orthodontist should be an authority on occlusion, including Temporomandibular Joint function.
6. Quantity is not necessarily an enemy of quality, if quality comes first.
7. The orthodontist needs better communication with patients, parents, dentists, and the public.
8. Time is one of our most valuable assets. It is reason in itself to become involved in a total management process.

The system we use is the Lewis A.

Allen Managment System, which is based on a simple formula: to plan, organize, lead, and control.

I PLANNING-- the work per-formed to predetermine a course of action to be followed.

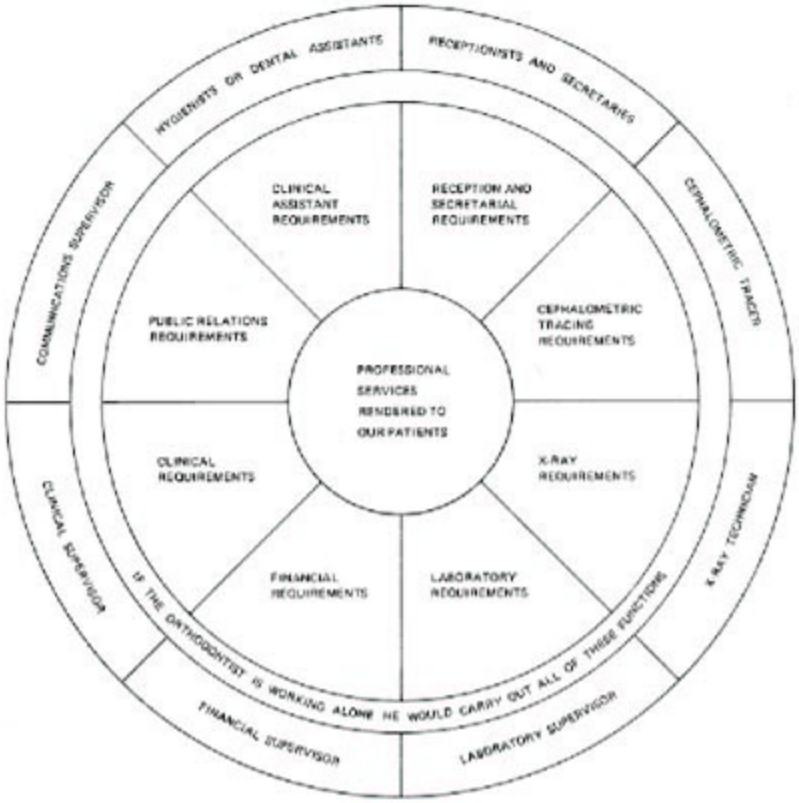
II ORGANIZING-- the work per-formed to arrange and relate the tasks to be accomplished.

III LEADING-- the work per-formed to insure that people act in such a way as to complete our

objectives.

IV CONTROLLING-- the work performed to assess and regulate results.

Problem solving is simply putting out brush fires and even the technical systems one develops to deal with problems will ultimately fail unless they function under a total management system or umbrella.



A Systems Approach

Peter Drucker, in his book THE PRACTICE OF MANAGEMENT sums up the development of the systems approach with these words:

There is only one answer: the tasks must be simplified, and there is only one tool for this job: to convert into system and method what has been done before by hunch or intuition, to reduce to principles and concepts what has been left to experience and 'rule of thumb', to substitute a logical and cohesive pattern for the chance recognition of elements. Whatever progress the human race has

made, whatever ability it has gained to tackle new tasks has been achieved by making things simple through system .

The next question, of course, is what is a system? A "system" is an integrated set of related procedures designed and coordinated to accomplish a specific set of goals or objectives. We must be willing to analyze critically and scientifically even the most fundamental practice procedures, activities that we have been performing in the same manner for years. The more one operates under the management umbrella the more quickly one can react to changes that will inevitably take place in our society. Technical systems can be changed as situations change if a total management system is understood and functioning. Therefore, again, technical systems must operate under a management system.

One need only look at the interrelationships of the professional services that have to be rendered efficiently and effectively and the functions that have to take place, whether performed by one person or five, to recognize that if one spoke doesn't function, the wheel will not turn smoothly, if at all. Team efforts require commonly and clearly understood objectives that define and establish the results to be achieved. When the personnel (and let us not forget the patients) know where we are going, they will take the effective actions that we desire. As leaders, however, we must influence them and help them make decisions by communicating, motivating, and developing our personnel and our patients. We are creating an atmosphere in which the staff finds satisfaction in the work and the patient receives satisfaction from the work performed .

We are creating an atmosphere in which the necessary conditions exist for the staff to carry out its work and for the patient to carry out the instructions given him; and we are creating an atmosphere in which there is accountability among the staff and to the patients being treated. The underlying principle is that productivity increases as the work performed is directed toward understood and accepted objectives. Since these objectives are dictated by both the needs of our practices and the needs of our patients, they are essential in the management of both the practice and patient treatment.

Planning

We are now going to take the management function of planning and use it as an example in developing our diagnostic and treatment system. Everything that takes place before treatment begins is considered to be planning. Therefore, let us outline the functions involved in planning:

1. Forecasting-- the work we do to estimate and predict future conditions and events. In our diagnostic system we are going to predict normal growth.
2. Developing Objectives-- the work we perform to establish the individual objectives. We are going to set the individual objectives in our diagnostic system through the use of the V.T.O.(Visual Treatment Objective) .
3. Programming-- the work we perform to determine the action necessary to achieve desired results. We are going to program a sequence of mechanics to reach our individual objectives.
4. Scheduling-- the work we perform to determine the time required to accomplish the program. We are going to set an average appointment time for our program of mechanics to function .
5. Budgeting-- the necessary resources to carry out the steps within the time limits so as to achieve the desired results. This allows us to set an individual fee for this case.

Procedures and Policies

In order to accomplish these five functions we need to develop procedures and policies. Developing procedures is the work performed to standardize the work that must be performed uniformly if the objectives are to be achieved. Developing policies is the work performed to establish standing decisions which apply to questions and problems that arise in the accomplishment of objectives.

Procedures and policies are necessary to complete the system. Procedures do not change things, they merely carry out fixed needs. Procedures tell you what to do and how to do it. Therefore, you need some latitude in your systems to carry out changing needs. You tell people what to do and discuss with them how they are going to do it. A management delivery system is necessary to install a technical delivery system. Therefore, an orthodontic manager must learn to:

1. manage himself
2. manage his staff
3. manage his patients

We are going to use the management system of planning to develop our diagnostic and treatment design. As we are trying to achieve our benchmarks of quality, we must maintain:

1. Adequate diagnosis
2. Proper treatment
3. The prevention of complications
4. Acceptable result

Diagnosis and Treatment Design

The more systematized we are in our diagnosis and treatment design, the more we are going to prevent complications. In developing our diagnostic and treatment design system, we must go back

to the simplest things that are done every day or thought about every day. What we all think about, of course, are the three major objectives of orthodontic treatment:

1. Ideal functional occlusion
2. The physiological stability of our results
3. Total facial balance (cosmetics of the face and teeth)

Of course, this leads us to think about the basic premise of orthodontic treatment:

1. OcclusionA. Tooth to bone healthB. Intermaxillary efficiency
C. Health of T.M.J.
2. Functional EquilibriumA. Tonsil and adenoid evaluation B. Habits

C. Musculature
3. Aesthetic Equilibrium (Soft Tissue Analysis)
4. Growth and Development

Assuming that we are concerned with these premises of orthodontic treatment, and we want to deal with them in the context of our four benchmarks of quality, we must approach the process of planning in a manner so systematized that success can be assured. In other words, we are going to juggle so many variables that a haphazard approach will increase the probability of failure. A logical sequence of steps can forestall that probability.

Therefore, the five functions of planning apply as follows:

1. We are going to forecast the growth of the individual patient.
2. We are going to set our objectives through the use of our V.T.O. which is like a blueprint in building a home.
3. We are going to program a sequence of mechanics to get to our objective from our visual treatment objective .
4. We are going to schedule an average time for these mechanics to function .
5. We are going to budget by being able to develop individually the cost for treating this case.

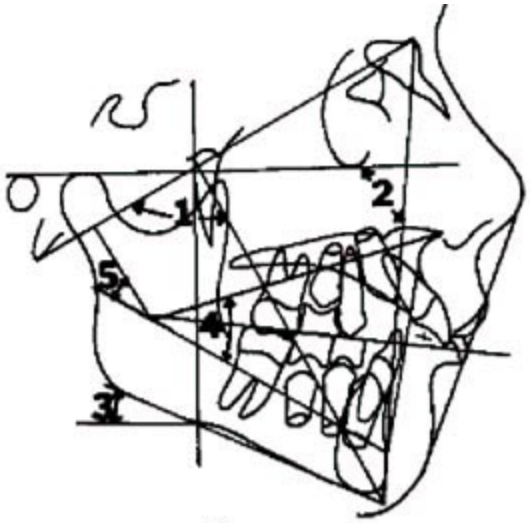
Of course, systems are necessary to develop the policies and procedures to make this happen routinely. We will now briefly outline the steps of the diagnostic and treatment design system for the Bio-Progressive Therapy, which we refer to as diagnostic programming:

Diagnostic Programming

CLINICAL DATA SHEET:

1. **NASOPHARYNGEAL AIRWAY:**
   - A. Tonsils present ☐ removed ☐
   - B. Breathing normal ☐ restricted ☐
2. **HABITS:**
   - A. Tongue ☐
   - B. Thumb ☐
   - C. Lips ☐
   - D. Other _____
3. **MUSCULATURE:**
   - A. Perioral: tight ___ normal ___ loose ___
   - B. Mastication: strong ___ normal ___ weak ___
   - C. Buccal: strong ___ normal ___ weak ___

Step I-- Clinical examination of the patient Step II-- Describe the malocclusion

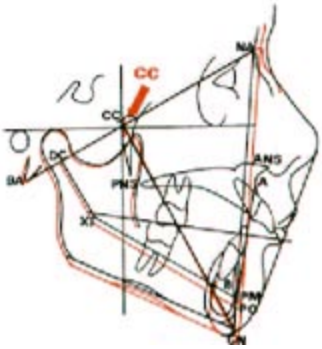


③ DESCRIBE FACE

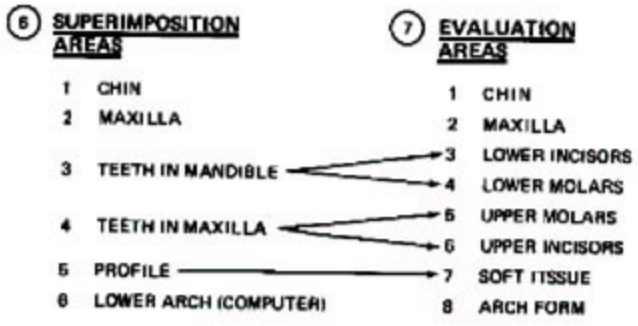
	DOLICO	MESIO	BRACHY
1 Facial Axis			
2 Facial Angle			
3 Mandibular Plane Angle			
4 Lower Facial Height			
5 Mandibular Arc			

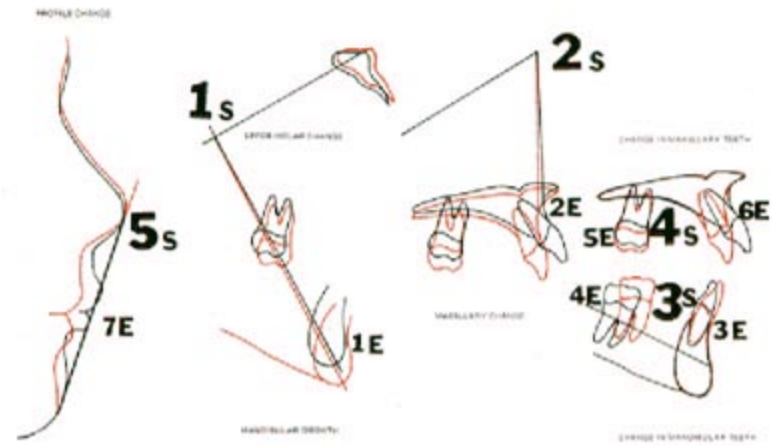
Step III-- Describe the faceStep IV-- Describe the functional requirements

a. Evaluation of nasopharyngeal airway
b. Evaluation of musculature
c. Evaluation of habits
d. Evaluation of soft tissue



Step V-- Construct the V.T.O. so that we can develop our five superimposition areas: The V.T.O. (visual treatment objective) is a management tool to allow you to think through a case in a logical consistent sequence, considering both growth and treatment effects.



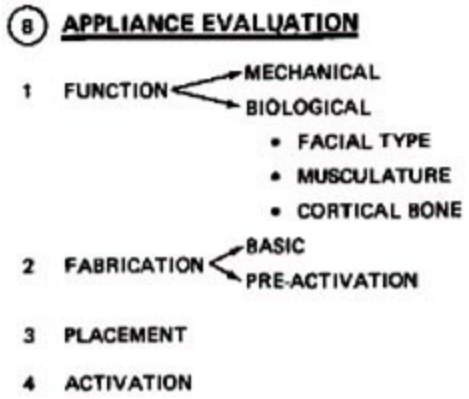


Step VI-- Superimposition areas. The superimposition areas from our V.T.O. give us the individual objectives for a case.

1. Chin
2. Maxilla
3. Teeth in the mandible
4. Teeth in the maxilla
5. Profile

Step VII-- From these superimposition areas we develop the areas of evaluation to establish our treatment mechanics:

1. Chin change
2. Pt. A change
3. Incisor objective
4. Molar objective and requirements
5. Molar objective
6. Incisor objective
7. Soft tissue



Step VIII-- Appliance Evaluation. Continuing our theme of systems development, when we are thinking of any auxiliary or fixed appliance, we like to think of it in four areas:

1. Function-- differentiating between mechanical function and biological function. Biological function is concerned with facial type,

musculature, and cortical bone.
2. Fabrication-- the basic fabrication of the wire and its pre-placement activation.
3. Placement-- of the fabricated appliance in the mouth.
4. Activation-- of the fabricated appliance in the mouth.

We use the seven evaluation areas to select the auxiliary appliances available to us to reach our individual objectives:

1. The various headgears
2. The maxillary quad-helix
3. The mandibular bi-helix
4. Rapid palatal expansion
5. The lip bumper
6. The reverse Nance holding arch
7. The facial mask
8. Plates
9. Activator

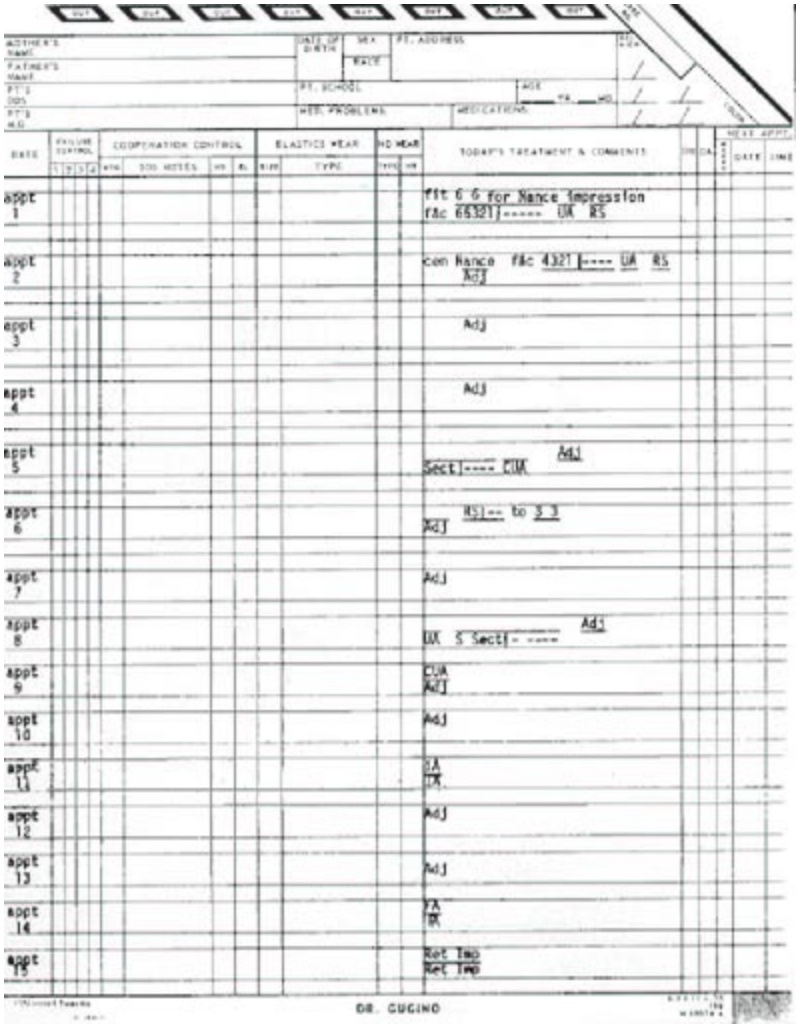
After we have selected any auxiliary appliances we are going to use, we then select the fixed appliance to carry out the individual objectives in this case. Of course, we can either use bands or direct bonded brackets as our vehicle. We will, of course, in future articles, discuss the particular portions of the Bio-Progressive Therapy mechanics.

Step IX-- Sequence of mechanics. Once we have selected our auxiliary appliances and our fixed appliance, we set up our sequence of mechanics.

Step X-- Time schedule. The next function of planning is to schedule an average time for these mechanical sequences to take place.

Step XI-- Once this is accomplished it is possible to satisfy the fifth function of planning-- setting a budget or a cost for this individual case.

The Bio-Progressive diagnostic and treatment system will be elaborated in succeeding articles.



Treatment chart prepared in advance.

Summary outline of the diagnostic and treatment system. (TO BE CONTINUED IN THE NEXT ISSUE)