

Auxiliary personnel—pillars of practice procedure

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IS YOUR practice like Topsy, who “just grewed”? Are you turning away patients that you could handle efficiently and immediately? Are you doing things that others could do just as well for you? Do you spend countless hours on minor details and paper work? Are your patients getting the best possible service? These are just a few of the questions that each orthodontist must ask himself. It is a sad commentary that too many men have horse-and-buggy practice management procedures in a jet-and-rocket age. Most of us can be proud of our technical training as dentists and of our additional training in the specialty of orthodontics. Very few schools, however, give courses in practice management, despite the fact that this is one of the most important facets of our service.

Recently, in discussing practice procedures with a confrere, I got the response: “Look, I went into dentistry because I wanted to be in a profession and not in a business! I am not running a beauty shop or a supermarket!” All of us believe that our profession has unique advantages and ego-inflating aspects which make it even more satisfying, and we can sympathize with this opinion. Further discussion, however, showed that this man is truly a slave to his practice. He goes to work at 7:30 each day, tidies up the office, gets out records, and hurries through the supply drawer to make sure things are there for the day. He sets up three or four instrument trays, putting partial bands and appliance envelopes on the tray for each of the three patients he will see in the morning. He puts out towels, fills cement bottles, and is just beginning to feel that he is on top of the situation when he glances at the lab bench and sees a stack of poured and untrimmed plaster casts and three head plate cassettes with exposed film still in them waiting to be developed. These can wait, but not the retainer that still must be made for a patient who is coming after school. He is a good

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operator and he bends the wire framework and in 20 minutes is ready to do the acrylic portion with an endothermic technique. In 45 minutes of actual work the retainer is done, and triumphantly the orthodontist faces the 9 o'clock patient with pumice speckling his glasses and his balding pate. An assistant? No need for that, since he is only going to see three patients in the morning. Why pay for something you do not need? As he starts fitting a band, the telephone rings. Before the morning is over, six telephone calls have taken 13 precious minutes from the time originally set aside for banding appointments. They always seem to come at the wrong time, as the cement-coated telephone cradle testifies. Instruments are no problem, since they will all be sterilized when the girl comes for the after-school rush. He has no time to write his records, but he can do this after he has finished seeing patients—that is, if he can remember exactly what he did for each patient. He is running low on attachment bands, and he just must get some time to weld more brackets on that strip material. The lunch hour is spent with one emergency recementation, wolfing down a sandwich as he pours up an impression for a lower fixed lingual appliance, answering the telephone, etc. His original afternoon schedule consisted of a patient at 1, another at 2, a half-hour appointment at 3, and ten adjustments between 3:30 and 5. The 1 o'clock patient shows up 20 minutes late, and as soon as he gets started there is a telephone call cancelling the 2 o'clock appointment because of an important test. A whole hour wasted! The high school senior who is helping him shows up in just the nick of time, before the rush begins, grabbing the trays to sterilize instruments, putting partially completed appliance envelopes in the laboratory for further work, pulling patients' records, etc. Somehow they manage to get through the afternoon, and by 5:30 Dr. J. sits down to write his records, plan for the next day, write checks, figure what supplies he needs, and dictate letters to patients and dentists. Then he turns to the laboratory to work on appliances. He is his own master and sets his own time, so, with a firm resolve, he slams down the work at 6:30 (the girl has already gone at 6) and says: "I am going home!"

Is this an extreme case? This man has spent 11 hours of back-breaking work in his "profession." Surely the manifold advantages that he envisions are not real. There was no time during the day when he was not under pressure and really "behind." Let us put ourselves in the place of this man and see how many things we do the way he does. Our first reaction is to be amused by his fluttering around like a butterfly from flower to flower and task to task. However, even though we are guilty to a lesser degree, I am confident that all of us are "a little bit pregnant." This man carries an active load of 135 patients, plus pretreatment and posttreatment observation, retention checks, etc. He would never use the term "waiting list," but we know his problem when new patients call. He averages four to five one-hour cancellations during the week and is grateful for each, because it permits him to catch up on his model trimming, retainer fabrications, indirect appliance work, etc. Get a technician? A full-time assistant? Two assistants? A hygienist? An auditor? Nonsense! At least that is what he says. He is not running a supermarket or a business; he is in a profession! This is our starting point for the present discussion of "Pillars of Practice Procedure,"

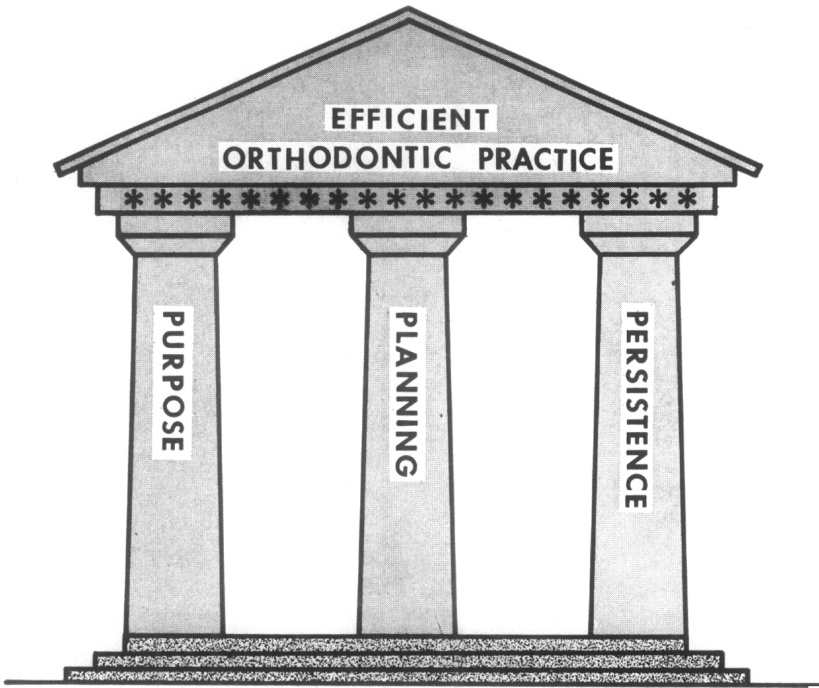


Fig. 1. Although auxiliary personnel may be considered pillars of practice procedure, their proper use requires purpose, planning, and persistence.

which could be succinctly outlined by the subtitle "Purpose, Planning, and Persistence in Office Management" (Fig. 1).

INCREASING DEMANDS FOR ORTHODONTICS—AND PROBLEMS ARISE

I have given just a single example of one person's problem. It would be nice if this were *only* one person's problem. The fact is, however, that it is a symptom of the major dilemma of how to satisfy the increasing demand for orthodontic services.

Gaston¹ recently made a study of the distribution of orthodontists and of just how busy these men are in different areas. The results showed that there are many areas in which there is no specialty care and others in which specialists have full practices and cannot take care of the great demand. Of course, orthodontics is not the only specialty in dentistry and medicine in which there is a shortage of properly trained and experienced men. Similar survey results would be found in the fields of oral surgery, dermatology, endocrinology, etc.

Dentistry in general—and even the other specialties—has had little gratuitous publicity in the lay press, but this has not been true of orthodontics. A number of articles and radio and television programs concerning the nature and possibilities of orthodontic service have only served to make the shortage of trained manpower more critical.

As a result of the greater demand, the press publicity, and the income dif-

ferential between orthodontists and general dental practitioners, two distinct trends may be observed in dentistry and satellite laboratory organizations.

The first trend is seen in the tremendous increase in orthodontic services being rendered by the general practitioner. Undoubtedly, a great deal of this is desirable. More dentists are handling limited orthodontic procedures, such as placing space maintainers and bite plates, treating simple cross-bites, etc. More dentists are handling simple orthodontic problems in conjunction with orthodontic guidance. More dentists are recognizing orthodontic problems and seeing that these are referred to the orthodontist early for the greatest possible service.

With the good must also come the questionable. The number of full-fledged orthodontic problems being treated by dentists who are ill equipped by training and experience to bring treatment of these cases to a successful conclusion has also increased tremendously. "Study" groups have been springing up, particularly in the major population centers. Study is admirable. G. V. Black said: "A professional man cannot be other than a continuous student." However, the highly complex and demanding education necessary for anyone entering the orthodontic specialty cannot be acquired by self-indoctrination and monthly meetings. If it could, there would be no reason for 450 graduate orthodontic students to be in training or for thirty-eight graduate courses to be operating in dental schools. One educator has referred to this general practitioners' orthodontic study group situation as "the lame leading the blind." Perhaps this is a bit harsh, but there is an element of truth in it.

The second trend is reflected by the mushrooming, flourishing, mail-order orthodontic laboratory business which is making it easy for a dentist to "cash in on the orthodontic boom," as one laboratory's solicitation flyer noted. Prior orthodontic specialty training and experience are not necessary, continues the advertising material—"Just send us your models and we will suggest the possible appliances, from which you can prescribe . . . we will even send instructions on how to adjust the appliances. You may also obtain your orthodontic instruments from us." Another says: "We specialize in removable appliances." It is no accident that the greatest amount of extensive orthodontic treatment being done in general practice today is being done by so-called "removable appliances."

These solicitations point up the reasons for the significant increase in orthodontic treatment being rendered in some general practices. By and large, laboratories are fine, ethical businesses and exist to help the dentist, but this is not always true. In a recent paper before the National Laboratory Association, Harold Hillenbrand,² secretary of the American Dental Association, warned that the laboratories and dentistry appear to be heading on a collision course.

In our own field, it is possible for laboratories to fabricate some sort of highly polished appliance which simulates bona fide orthodontic appliances and which will fit the static plaster model. Even if some of these are misused, no overt damage can be done. The uninitiated dentist does not know that some of these appliances are copies of appliances that appeared in orthodontic textbooks before the turn of the century and are hardly calculated to perform orthodontic therapy in the best interests of the patient. This is not surprising to us because, with only a plaster model on which to design an appliance, precious little more

can be expected. The biophysical aspects of orthodontic diagnosis, which make up a great portion of graduate orthodontic training and which utilize such diagnostic criteria as cephalometric head plates, lateral jaw films, panoramic and conventional radiographs, photographs, and careful clinical examination, are *completely* lacking. A suitable analogy would be seen in the case of an orthopedic surgeon who has a cast made for a broken leg by taking an impression of the outside of the leg itself.

The unique nature of orthodontic treatment with its delayed-action response to adjustments, its dependence on such physiologic factors as tissue change and growth and development, and its reliance on the patient's cooperation, lends itself admirably to possible exploitation of the type just described. As the charts of the American Dental Association survey indicate,³ there is also a substantial income differential between general practice and the specialty of oral surgery, but there has been no similar increase in surgical procedures in general practice; in fact, more and more dentists are discontinuing surgical endeavors. The training for the specialty of oral surgery is no more demanding, longer, or more arduous, but the challenge is different and the dangers of making a mistake are immediately apparent and greater. No laboratory exists to bail out the general practitioner who has tackled surgical problems beyond his depth. An unfavorable outcome is immediate rather than delayed, and it may be a matter of life or death. Those built-in orthodontic alibis of the time-consuming nature of response, variable tissue reaction, the need for growth and development, of maturation of the third molars, and the patient's cooperation do not apply to the same degree in oral surgery. As one Chicago dentist who handles a large number of orthodontic cases said recently when asked why he did not do his own extractions: "Oral surgery? No sir! I don't want that responsibility. That is what we have specialists for. If I have a cardiac case or a broken off root, or a bleeder, I am in trouble, but this never happens in orthodontia". Of course, trouble does arise in orthodontics, and it can be serious trouble—not only failure to accomplish the desired or even minimal correction but the occurrence of root resorption, tissue damage, decalcification, periodontal involvement, etc. These things are harder to pin down. They happen gradually, and seldom does an emergency present itself during treatment to serve as a warning bell to the patient or to the untutored dentist.

In my opinion—and I emphasize that this is my private opinion—the situation represents a creeping and all too rapidly growing cancer. Eradication will not come immediately, if it comes at all. Education of patients is one solution; the public must be alerted to the problems as well as the possibilities of orthodontic care. Frankness among ourselves is essential. We must show unfavorable sequelae instead of hiding them; we must recognize the limitations imposed on even the best-trained and conscientious specialist; we must stop emphasizing the tool—the appliance—and stress the biophysical aspects which are so very important to proper and successful treatment. Then the unwary dentist may know how much trouble he is headed for before he starts. The old saying that "fools rush in where angels fear to tread" can be neatly paraphrased to fit the current subject.

The problem also stresses the need for better and more orthodontic indoctrination in dental schools. Students must be taught to recognize orthodontic problems, for it has been estimated that 95 per cent of the dentists currently in practice neither see orthodontic problems nor refer patients for orthodontic consultation. Also, such things as interception of conditions which could later cause malocclusions, treatment of simple, circumscribed orthodontic problems which general dentists can handle, and a thorough knowledge of which cases to avoid must become a part and parcel of every orthodontic course — taught, incidentally, by orthodontists!

MORE AND BETTER SERVICE DEMANDS GREATER EFFICIENCY

Neither lay education nor orthodontic and dental indoctrination will come overnight, but one immediate way in which we can cope with the increasing demand for orthodontic service is to make ourselves more efficient. This takes us right back to my opening remarks and to the experience of our antibusiness orthodontist who has his self-styled professional independence and spends 59 hours a week enjoying(?) it. (He works only 6 hours on Saturday). Careful planning and delegation of authority would drastically reduce his time commitment to the practice; his patient load could be doubled; his income surely would not suffer. The pressure of practice could be minimized for him. His excellent clinical judgment, his years of experience, and his diagnostic acumen could be made to serve more patients more efficiently. As a specialist, as captain of a crew of well-trained personnel, he would know what was going on and where to turn. Surely this would be preferable to allowing patients to drift on uncharted orthodontic seas in a ship with an inadequately trained captain (the general practitioner turned orthodontist).

Fortunately for orthodontics, the pattern has already been set in medicine. While dentistry has been overzealous in protecting its "birthright" and the encroachments by laboratories, medicine has been making full use of ancillary personnel. Look at how much a nurse does for the patient in the hospital or even in private practice. In many phases of medicine, she is literally the tool of the physician, who tells her which medicines to administer, which injections to give, which treatment to apply. Orthodontics offers a similar challenge, and it is up to us to develop our "orthodontic nurse" philosophy and make the fullest use of auxiliary personnel. We can survey the extremely successful "dental nurse" program in New Zealand, where the caries problem has been brought under control by the use of such assistants; we can see the excellent use of auxiliary personnel in dentistry in general and orthodontics in particular throughout many parts of Europe. I am confident that we can profit by their experiences. Actually, this philosophy has a firm beachhead in orthodontic practice right here in the United States, but it has been developed largely on a "not for publication" basis. In some instances, unfortunately, the use of auxiliary personnel has been done unscrupulously and has been carried too far, to the detriment of the patient and the profession. It is our obligation to police our own profession and to ferret out such cases for disciplinary action, so that we can maintain the highest ethical, moral, and professional standards. The use of auxiliary help can be a two-edged sword, but so was King Arthur's "Excalibur" when it was used for

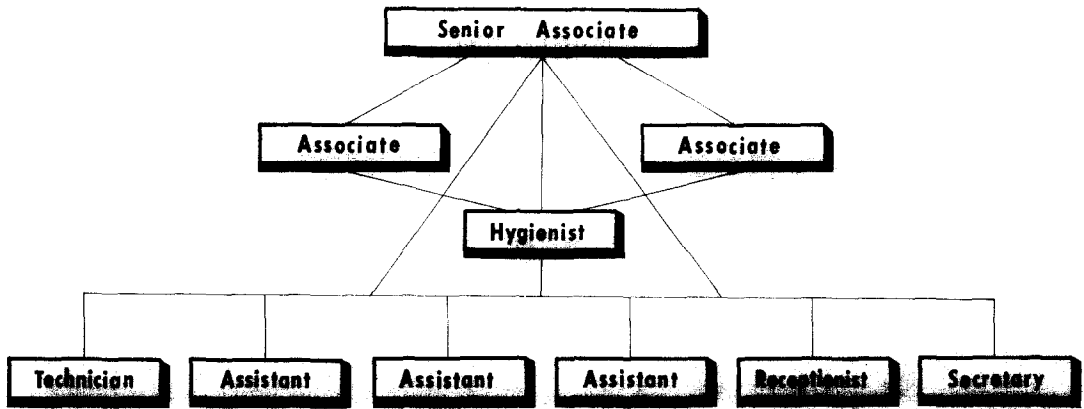
THE ORTHODONTIC PRACTICE PYRAMID

Fig. 2. Diagram showing the relationship between professional and nonprofessional personnel in the office "team." It may be modified by increasing or decreasing the number of assistants, with resultant changes in efficiency of service.

good and not greed. After all, we cannot throw out anything so promising to orthodontic progress simply because it is subject to misuse, any more than we could stop giving penicillin, merely because it has often been used indiscriminately.

The theme for this discussion is team effort. We have all preached this continuously to our patients, and it is important when we talk about the orthodontist-patient-parent team. But what about the office team (Fig. 2)—senior and junior associates, hygienists, technicians, receptionist, secretary, assistants, bookkeeper? All or some of these have a place in your practice.

To embark on this program, then, one must have purpose, planning, and persistence. The goal of efficient office management is to get those things done by others which they can do best, freeing the orthodontist for the tasks which he and only he can do and which only he has been trained to do. Is the orthodontist going to clean off cement better? Take better impressions? Mix cement better? Make appointments, enter payments, keep books, make retainers, take photographs and head plates, etc. better than anyone else? Is it not possible that someone else can do this equally well, and perhaps better (Figs. 3, 4, and 5)?

Spend a week or a month writing down your daily activities, listing everything that you do. Go over this list and check those things which others might do as well as you, which might be done by using less expensive, less highly trained help. You will find that what is left is the "meat," and a very specialized meat at that, for it will consist of actual orthodontic procedures only—the placement and adjustment of appliances. Even here, fabrication of appliances



Fig. 3. The hygienist or assistant may help in a number of ways, such as taking photographs, heat-treating arch wires, cleaning cement off bands, and teaching proper oral prophylaxis to patients with appliances.



Fig. 4. Delegation of such duties as prophylaxis, fitting extraoral appliances, selecting and dispensing elastics, trimming models, welding attachments, and readying trays for impressions or actually taking impressions makes the hygienist a valuable team member.

can be reduced to a minimum. A preformed banding technique permits the assistant to select the bands, weld on the attachments, etc. The cementation of a loose band need not take more than 15 seconds of your time, if handled efficiently. There is no reason why a set of impressions cannot be taken in less than 5 minutes from the time the patient walks through the reception room door to the time he leaves the chair—and this is five minutes of work that can be handled by someone else.

Certainly, to get the most benefit from the use of ancillary personnel, changes must be made in archaic state board laws. If the hygienist can use a sharp instrument to remove calculus deposits in the gingival crevice, along with myriad other duties, surely she can take an impression, clean cement off bands, remove loose wires, perhaps cut ligatures off brackets, repair retainers, and weld brackets, in addition to cleaning teeth. Steps are being made in this



Fig. 5. Both the hygienist and the assistant can process radiographs and mount them, assemble case records for consultations, take cephalometric head plates, fabricate retainers, and pour up plaster models.

direction. A special workshop on dental hygiene education and licensure was held Oct. 1 to 3, 1964, in Chicago. Special emphasis was placed on experimentation in expansion of the hygienist's duties. Specific objectives of the workshop were three: (1) to re-examine the present potential duties and responsibilities of the hygienist; (2) to evaluate the adequacy of present requirements for education of the hygienist; and (3), if indicated, to propose revisions in these requirements for consideration of the Council on Dental Education and to propose revisions which may be indicated in licensure regulations for the dental hygienist. A news release from the American Dental Association stated: "Among duties which might be assigned to the hygienist, according to a survey of dental hygiene educators conducted prior to the Workshop, were: perform prophylaxis; expose and process roentgenograms; apply topical medications; perform clinical and laboratory oral diagnostic tests for interpretation by the dentist; prepare preliminary records of oral conditions; take impressions; prepare study models; place rubber dams; and administer pre-and post operative care to the patients." This list can be amplified with certain orthodontic assignments.

The University of Michigan Dental School, in conjunction with the Michigan State Board, is developing an experimental program for training hygienists as orthodontic nurses, and New Jersey has broadened its dental hygienist regulations. From such programs will come needed changes in state board requirements. Before this happens, however, there is much that we can do to improve our

efficiency. The balance of this article will be devoted to the team-approach concept, aimed at rendering better service to more people more efficiently.

PURPOSE, PLANNING, AND PERSISTENCE

1. As the first element of our "three P's" in office procedure, the *purpose* is to delegate all duties to others who can, legally and from the standpoint of ability and ethics, perform these tasks as well as the orthodontist, thus freeing him for the things that he can do best in the office.

2. Careful *planning* before embarking on a personnel-expansion program is essential. Merely hiring a lot of people is not the answer. Copying a confrere's arrangement may or may not be beneficial and may or may not fit your practice, facilities, temperament, etc. The first order of business is to turn to a good practice-management consultant. There are a number of them available; they are specialists, even as we are, with a knowledge of all the problems, possibilities, and tax implications. In addition, they can render continuing service in keeping the business end of the practice running properly with a minimum of attention from the orthodontist. In a sense, we are all pretty much like the man whose office I described at the beginning of this article; we are not "businessmen," for our training is in our profession and this is really where we want to spend our energies.

Planning must take into account two major aspects of practice—facilities and personnel.

FACILITIES. Unless the physical plant is efficiently planned for your particular operation, personnel changes will provide a partial improvement at best. Facilities and personnel are interdependent. Too many people can be as bad as too few. Colliding bodies, traffic-flow bottlenecks, wasted motion, inadequate facilities, and duplication of facilities are the result of "hit-and-miss" planning.

I have covered this problem in a previous article entitled "Efficient Practice Management," which appeared on the February, 1962, issue of the *AMERICAN JOURNAL OF ORTHODONTICS*, but I would like to outline the major considerations again.^{4, 5}

Location of office. The trend is largely toward the suburbs in large population concentrations, but the pell-mell rush to the fringes can actually decimate the professional population in areas of the city where such persons are still needed and where their services are still in demand. Before choosing a location, check on the number of orthodontists serving the area in which you would like to settle. Check also the economic status of the area, the future developmental possibilities, the trends in population density, transportation services, the number of the referring dentists, etc. In one satellite community around a large mid-western city, the number of orthodontists has reached the point of oversaturation, as reflected in the reduced patient load of each man, the competitive fee schedules, and the reduced net return; meanwhile, large areas of the city itself cry for orthodontic service. Here, again, the practice-management consultant has his finger on many practices in many areas, and he can advise you.

Suburban offices and offices near schools are to be recommended for many reasons, however. Most important is school proximity, permitting you to take

children out of school during the day, serve them, and get them back to class with a minimum loss of time (within the hour, if possible). Excellent transportation facilities will assist you in this regard. Remember that most of our patients are children who can travel on their own. Make use of this. Parents rebel at continuously serving as chauffeurs for their children. With more and more mothers working, parents simply cannot bring their children to the office during the day. Association with giant suburban shopping centers may be the thing, but one should check with the men who are already there and, again, check the proximity to schools and public transportation. Adequate parking should be



Fig. 6. Numerous shopping centers have now incorporated facilities for medical and dental services. Such buildings have been quite successful, and are in great demand, with a waiting list for space. The Drake-Oakbrook center and the Old Orchard Center (pictured here) on Chicago's perimeter are particularly attractive and have lured a number of outstanding practitioners away from the "Loop." (From Graber, T. M.: *AM. J. ORTHODONTICS*, February, 1962, published by The C. V. Mosby Company.)

close by, whether you have a bungalow office, a suite in a professional building, or an office in a shopping center (Fig. 6).

Type of building. The traditional suite in a large professional building is no longer the favorite place for most men. Yet, if all factors are weighed carefully, it may still provide the best answer for you. Again, the need and demand for orthodontic service, population concentration, transportation, etc. must control your choice. There has been a tremendous increase in the number of special-purpose professional buildings—group medical and dental practice buildings owned by tenants or owned by some of them and rented to the balance. These and the single-tenant bungalow type of professional office can be built to the specifications and needs of your particular practice and should be quite efficient.⁶

Tax laws at present are favorable to ownership of bungalow offices, and the trust and corporation possibilities should be carefully investigated since properly drawn documents can amplify and protect an equity and develop an estate for the orthodontist and his family. Here, again, trust and corporation laws vary in different parts of the country, and it is imperative to obtain the advice of the practice-management consultant or tax lawyer before you rush in. Construction costs, land values, and real estate and personal property taxes also mitigate against plunging into a major investment of this type, but it will pay if properly planned and funded.

The home-and-office combination is not to be tossed off lightly. Tax benefits are significant. The orthodontist is less likely to be called for emergency appointments than other specialists, and he is less a slave to his practice after hours, so the proximity of home and office need not become onerous. The saving in travel time to and from the office alone could make it worth while.

Office layout. Regardless of the type of office—professional building, bungalow office, home-and-office combination—the arrangement should foster maximum efficiency of service. There are many possibilities, of course, and the dental supply houses have a library of plans to fit your needs. The American Association of Orthodontists has a file of office and building plans which may be obtained by merely writing to the Central Office in St. Louis, Missouri. Whatever arrangements you choose, attention must be paid to certain factors if you are to make optimum use of your efforts as well as those of your auxiliary personnel. Although this subject is quite comprehensive, only the major considerations will be outlined here.

The work area or operatory should be large enough to accommodate a minimum of two chairs, cabinets, modified units, etc. (Figs. 7 and 8). After considerable experience with a number of arrangements, I have come to the conclusion that it is best to have two to four chairs in one room. This arrangement provides for less wasted motion and better control of patients and appointments; the patients like the "togetherness," which is psychologically quite an advantage for the apprehensive child; equipment can be shared between chairs; and the feeling of openness somehow reduces the tension and oppressiveness of a heavy schedule. The operatory should be separate and out of the line of vision of the reception room. Traffic flow should be such that no



Fig. 7. The multi-chair operator with a welding and administrative "island" behind the units is a most efficient arrangement. (Courtesy J. V. Benton.)

bottlenecks are created at a receptionist's desk and patients and assistants are not blocking each other.

The control center at the back of the multi-chair operator handles appointments, giving of school excusals and elastics, preparation of recall cards, filing, care of the telephone, etc. (Figs 7 and 8). The appointments at 3 to 4 week intervals are actually given to each patient while he is still in the chair, and the patient leaves the office directly from the chair.

If possible, there should be two doors into the operator, so that the staff does not have to go through the reception room to leave, visit rest facilities, etc. In some offices, it is possible to establish a traffic flow which takes the exiting patient back to the reception room by a different route. This is generally desirable.

The reception room should always have ample space for seating three times the number of chairs in the operator (Figs. 9 and 10). Communication by intercom from the control island in the operator is recommended. A discreet sign on the reception room wall requests all parents, in the interests of better service, to stay out of the operator unless called in specifically. Soft background music is piped to all rooms, including the reception room.



Fig. 8. Examples of an administrative "island" behind the multi-chair operator, of the operator with only partial dividers, and of a central receptionist area. In left center view note the "accordion" plastic folding divider, which can be pulled out to provide privacy if needed. Also, note the sink on the end of the welding and cabinet divider, where the operator may wash his hands on his way from one patient to another. Regular motor chairs are used in preference to contour chairs, since they take less room, are easier to get in and out of, and allow better head positioning.

The welding island, laboratory facilities, and technician areas should be in close proximity to the operator (Figs. 7 to 10). X-ray facilities (for cephalometrics, intraoral views, panoramic radiographs, and photographs) can be put in a separate room to advantage. This reduces the traffic in the operator and, in any event, involves duties set aside for ancillary personnel.

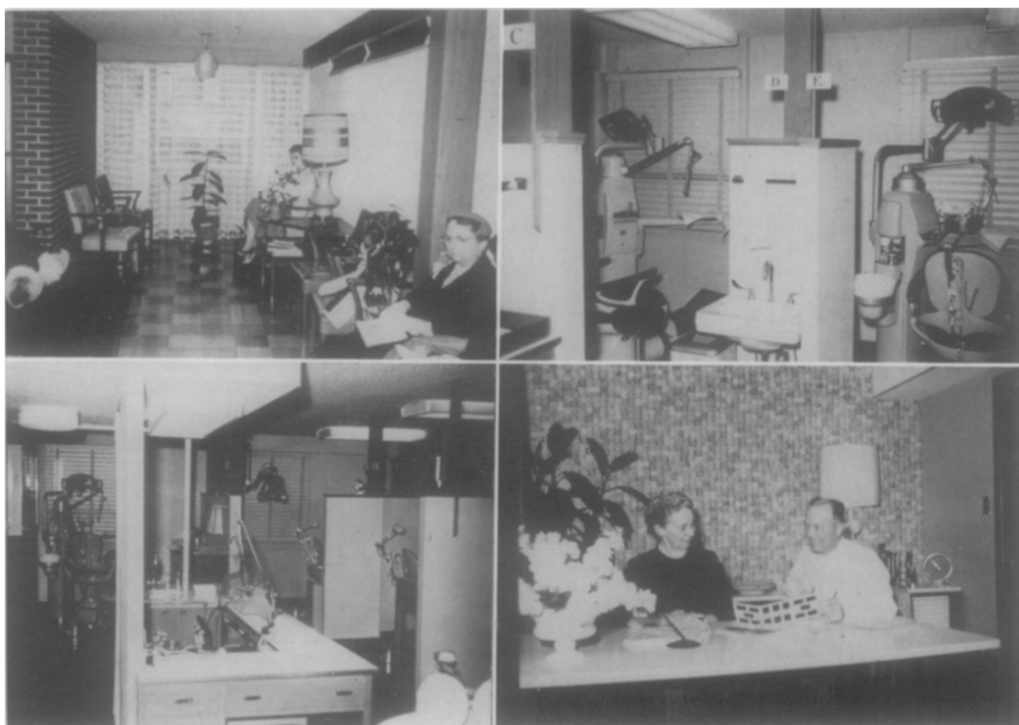


Fig. 9. Views of the office of Drs. J. V. Benton and J. R. Rogers, showing an ample reception room, semidivided operatories, the technician and administrative island behind the chairs, and the private consultation room.

A consultation room and private office is an important part of the setup. This may double as audio-visual room, where one can show parents some of the problems encountered in orthodontics and where patients can be shown how to brush around appliances, how to care for a retainer, etc. (Fig. 9).

PERSONNEL. An efficient and attractive physical plant is only part of the picture. The team approach which has been so successful in medicine and in cleft palate rehabilitation has just as much to recommend it for orthodontics.

Starting at the top, more effective use of professionally trained personnel means that the possibility of group practice or partnerships should be explored. Properly executed arrangements of this type, drawn up by experienced management consultants and legal counsel, foster the team philosophy and make for more efficient use of the facilities. Such arrangements reduce the strain, tension, and health hazards of demanding orthodontic practices. The patients certainly benefit; the illness of one orthodontist does not interrupt the adjustment schedule. Patients continue to receive treatment during the vacation of one partner, and the vacationing man is free of gnawing fears of what might be happening to the unattended flock at home.⁷

An arrangement that I find of considerable value is the team setup of a

A



B



Fig. 10. Multi-office professional buildings are being constructed in many areas of the country, with the orthodontic suite being one of a number of medical and dental specialties represented. (Courtesy of Richard Kalison.)



C



D

Fig. 10—cont'd. For legend, see opposite page.

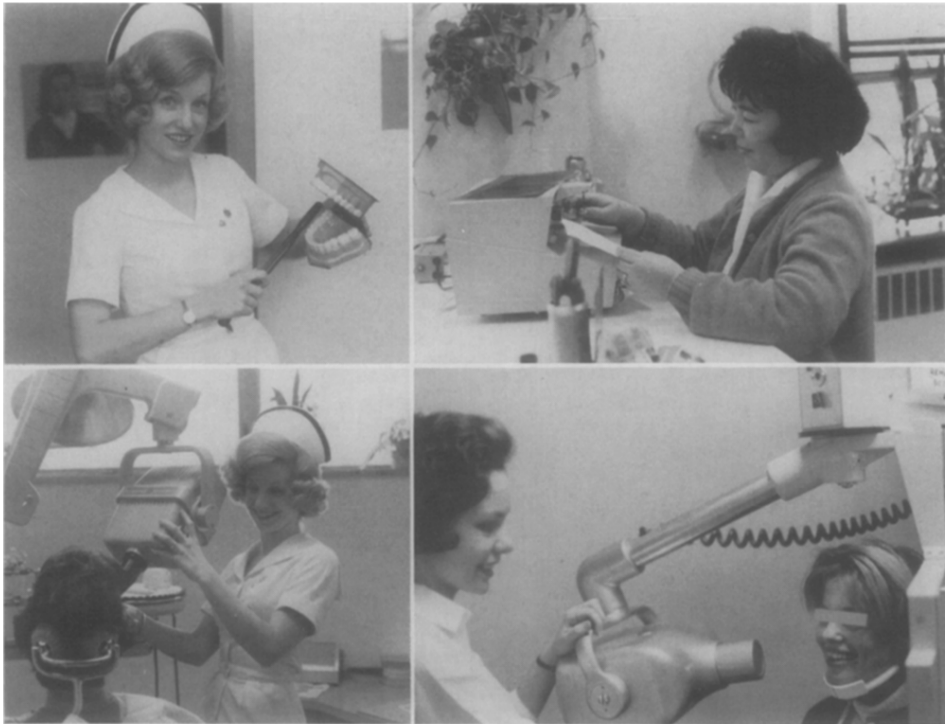


Fig. 11. Additional duties that constitute a legitimate part of the routine of the hygienist and assistant include patient education, electric soldering, and the taking of intraoral and panoramic roentgenograms.

senior and junior partner. Many established orthodontists take on men who have recently completed graduate orthodontic training. This is of mutual benefit, with the junior associate profiting greatly by doing those things which are likely to increase his speed while he is gaining experience and judgment. Usually there is a one-year "trial period" for the office marriage. The income is set up on a graduated scale, with the junior partner's portion increasing as the length of associateship increases. A straight-salary arrangement works out very well for the senior associate in cases where the junior man expects to open his own practice and cut down his time. A breakdown of the duties of the two partners will be given later in this article.

Even though the present state board laws concerning the duties of the hygienist lag and are behind the times, there is still much that this professional member of the team can do. Besides cleaning teeth and appliances, she can clean cement from the teeth and bands, take head plates and panoramic and intraoral radiographs, remove loose appliances and clean and ready them for re cementation, weld brackets and attachments to strip band material, repair retainers, take impressions, and, on an emergency basis, tuck in ligatures that are irritating the mucosa (Figs. 2, 3, 4, 5, 10, and 11). Of course, there are duties which the orthodontic assistant can handle when hygienists are not

available. I would like to suggest the following division of duties as one efficient approach:

Hygienist

1. Take initial impressions.
2. Take head plates, intraoral, and panoramic radiographs; trace head plates.
3. Clean the teeth periodically.
4. Clean cement off all bands.
5. Remove loose appliances and clean and ready them for recementation.
6. Weld brackets and eyelets to strips.
7. Repair retainers.
8. On emergency basis, tuck in ligatures that are irritating the mucosa.
9. Patient education: practical and audio-visual.

Assistant

1. Take head plates; trace for analysis.
2. Clean and ready loose bands for recementation.
3. Mix cements and impression material.
4. Weld brackets, eyelets, solder, etc.
5. Repair retainers.
6. Seat patient and get him ready; dismiss patient.
7. Sterilize instruments.
8. Take dictation on each record.
9. File records; help on recall system.
10. Make appointments.
11. Answer telephone.
12. Take care of mail.
13. Pour up, trim, and finish down plaster models.
14. Develop x-rays.
15. Take care of finances, write receipts, etc.
16. Order and maintain supply inventory.
17. Maintain equipment.

Technician (Fig. 12)

1. Make all fixed and removable appliances.
2. Make all retainers.
3. Fabricate elastoplastic appliances.
4. Make all habit appliances.
5. Make all holding arches.
6. Make all bite plates and splints.
7. Make all cast overlays.
8. Study casts when not performing one of the aforementioned tasks.
9. Control laboratory inventory.

Secretary

1. Type all reports, letters to parents, patients' records, etc.
2. Type up all dictation on current correspondence.

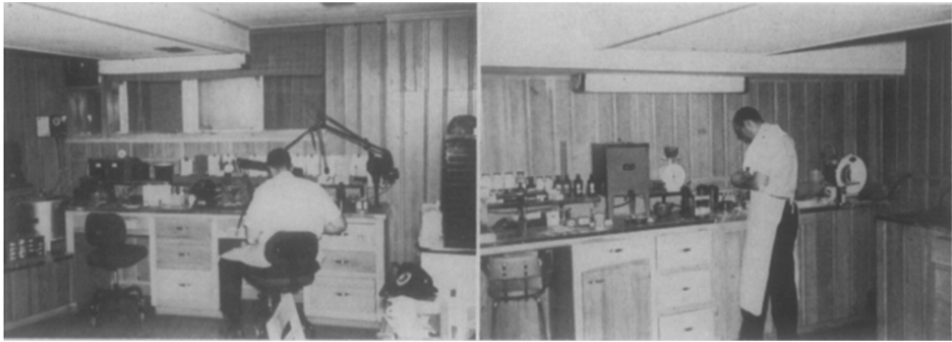


Fig. 12. An important member of the office team is the technician. Some of his duties may overlap those of the assistant and hygienist. (From Graber, T. M.: AM. J. ORTHODONTICS, February, 1962, published by The C. V. Mosby Company.)

3. Handle finances, day sheets, monthly reports, statements, and checkbook reconciliation.
4. Answer telephone; maintain recall system.
5. Help make appointments when not otherwise busy.

Such a division of duties is arbitrary, and obviously this can be varied if desired. The overlapping is purposive and beneficial. When one member of the team is sick or on vacation, there is someone else trained to step in and assume at least a part of the duties. Even the secretary should be trained in some of the assistant's duties. If there is more than one assistant, naturally some of the responsibilities will be delegated to one and some to the other.

The technician is an extremely important member of this team and, if possible, should be in the office rather than in other quarters. Removable appliances, particularly for adult patients, are readily fabricated and modified with the technician present. When the orthodontist needs such things as retainer fabrication and repair, positioners, habit appliances and holding arches, cast overlays for impacted canines, it is so easy to turn to the technician! The pressure on the senior and junior associates is reduced if there is a technician. His salary expense, of course, is subtracted from the gross income before income taxes are applied, as we know, making the government a substantial contributor to the salaries of all auxiliary personnel.

Returning to the junior and senior associates, the following division of duties is suggested:

Junior associate

1. Fabricate and place all bands.
2. Place all original arch wires, when the setup is complete.
3. Make all extensive appliance modifications during treatment.
4. Fabricate and place all rectangular arch wires, when indicated (or "piggy-back" torquing auxiliaries).
5. Do any extensive repair work.
6. Remove all appliances on completion of treatment.
7. Take impressions and fit retainers.

With the assignment of duties to ancillary personnel that has been outlined, and with the hygienist and junior associate handling the bulk of the appliance work, it is obvious that relatively little is left for the senior associate. However, this is the most important part and the heart of a successful practice. Surely it is the part that he wants most to do and is best qualified to handle. The following list is recommended:

Senior associate

1. Make most routine adjustments, or at least alternate adjustments every 3 or 4 weeks.
2. Try to place most 0.016 and 0.018 inch arch wires when needed.
3. Recement isolated bands that do not require extensive repairs.
4. See all new patients, observation patients, serial-extraction patients, pretreatment and posttreatment patients, and patients under retention.

An important part of the office planning should be a routine which limits setups and long appointments to school-time hours, wherever possible. When the office is near the school, there is no reason why elementary school children cannot have all their appointments every 3 or 4 weeks *during* school hours. In our experience, the majority of patients are out of school no more than a total of one hour's elapsed time for appointments which come once every 4 weeks, on the average. Special school-excusals forms have been developed and are used as described in my 1962 article.⁵ Wherever possible, appointments are made during periods designated for gym, study, art, etc. High school patients are required to have school appointments once every other time, or once every 8 weeks, and every effort is made to schedule this during a study period or at a time set aside for gym or a minor subject.

In planning the routine, it is wise to set aside one Saturday morning each month as a "re-call" morning. Whereas regular adjustment appointments for the senior associate may be scheduled on the basis of two patients for every 15 minutes, re-call appointments for pre- and posttreatment and serial-extraction patients certainly should be scheduled on the basis of three or four patients in a similar period. Since "no shows" are more likely in this group, several additional patients should be added to the morning schedule to take care of cancellations and failures to appear.

Since indoctrination and motivation of the patient are very important, and since a knowledgeable patient makes a better, more cooperative patient, every effort should be made to indoctrinate both patients and parents so that they know what is to be expected of them as important members of the "treatment team." The use of an audio-visual setup, with selected sequences on various phases of orthodontic treatment is highly recommended.⁸ Relatively simple and foolproof attachments can be used with standard projectors and tape recorders or with film strips and records. The sequences do not require the presence of the professional and nonprofessional office personnel, and yet the patient gets the message. Such things as brushing teeth, wearing elastics, headgear wear, retainer wear and care, and muscle and speech exercises can be covered quite well with suitable slides. If you desire, the voice on the tape may be your own

and the hygienist may be assigned to answer questions (Fig. 10) afterward. Audio-visual teaching is coming very much into its own, and I predict quite an expansion of its use in orthodontic practice. The American Association of Orthodontists, in cooperation with The C. V. Mosby Company, is developing an audio-visual program that lends itself admirably to such use.

3. The last element of our "three P's" is *persistence*. This can take many forms, but the best-laid plans will go awry unless every effort is made to follow the plan and unless continued effort is made to see that the assigned duties are, indeed, carried out as planned.⁹ Persistence in execution is made easier by persistent effort on the part of all members of the team to work together—and this requires a fair degree of persistence, blended with significant amounts of diplomacy and compromise at times, as with any group of persons. A fourth "P" might point up one of the problems, namely, *personalities*. It is here that persistence in remembering the purpose and in carrying out the planning comes to the fore and prevents personalities from pre-empting practice considerations.

SUMMARY

Not only is the orthodontist freed of the pressure-packed, time-consuming jobs that others can do equally well, but the patient is better served by the team approach. The penalties of tension, pressure, possible future cardiac problems, varicosities, ulcers, and reduced longevity are constantly with us and can be reduced only through intelligent use of auxiliary personnel in a suitable office environment.

REFERENCES

1. Gaston, N. G.: Report of the Subcommittee on Practice Locations, AM. J. ORTHODONTICS 49: 545-549, 1963.
2. Hillenbrand, H. H.: The ADA Replies; the Role of Trade and Professional Associations in Relation to Members and Each Other, D. Management 5: 59-62, 1965.
3. Bureau of Economic Research and Statistics, American Dental Association: The 1962 Survey of Dental Practice. III. Income of Dentists by Type of Practice, Personnel Employed, and Other Factors, J. Am. Dent. A. 66: 719-724, 1963.
4. Graber, T. M., and Chung, D. D. B.: Orthodontics in 1969, AM. J. ORTHODONTICS 45: 655-681, 1959.
5. Graber, T. M.: Efficient Practice Management, AM. J. ORTHODONTICS 48: 81-105, 1962.
6. Boelke, R. E.: The Professional Office Building, Oral Hyg. 55: 44-59, 1965.
7. Rutledge, C. E.: Answers to Questions About Group Practice, D. Management 2: 28-37, 1962.
8. Graber, T. M., and Hannett, H. A.: Audio-visual Clinics, AM. J. ORTHODONTICS 49: 538-540, 1963.
9. Saul, S.: How to Assemble Your Own Assistant, D. Management 4: 59-68, 1964.

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