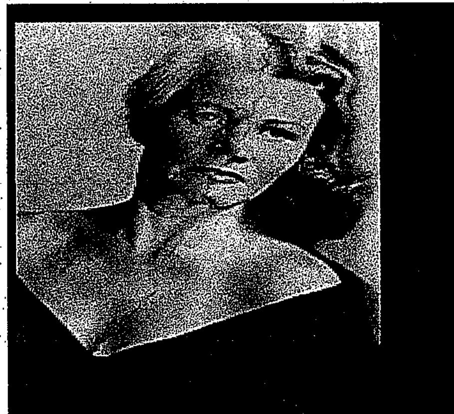
AGING AND HOW IT AFFECTS ORAL SYSTEMIC HEALTH



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NEW JERSEY ACADEMY OF GENERAL DENTISTRY
CONTINUING DENTAL EDUCATION
OCTOBER, 27, 2010

AGING AND HOW IT AFFECTS ORAL SYSTEMIC HEALTH

COURSE DESCRIPTION

This course is designed for the dental practitioner, the dental hygienist and dental assistant to educate and instruct them in how both aging affects systemic and oral health and how chronic disease affects aging.

The attendee will be able to learn the following:

1. The factors involved in the disease process, including what is disease, both acute and chronic versus what is long-term illness and end-stage disease.
2. What diseases are common in the oral cavity with and without teeth.
3. How diseases are affected by aging and the lack of care.
4. How systemic disease is related to oral disease.
5. What diseases in the oral cavity cause systemic disease.
6. Treatment modalities for oral systemic disease processes.
7. How to diagnose oral disease and systemic disease.
8. Statistics related to aging and disease states.
9. Environmental factors related to oral systemic disease.
10. New research and products related to treating, diagnosing and eliminating oral systemic disease states.
11. Dentistry that can cause oral disease or eliminate it.

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Dentist, Clinical Gerontologist, Author, Educator
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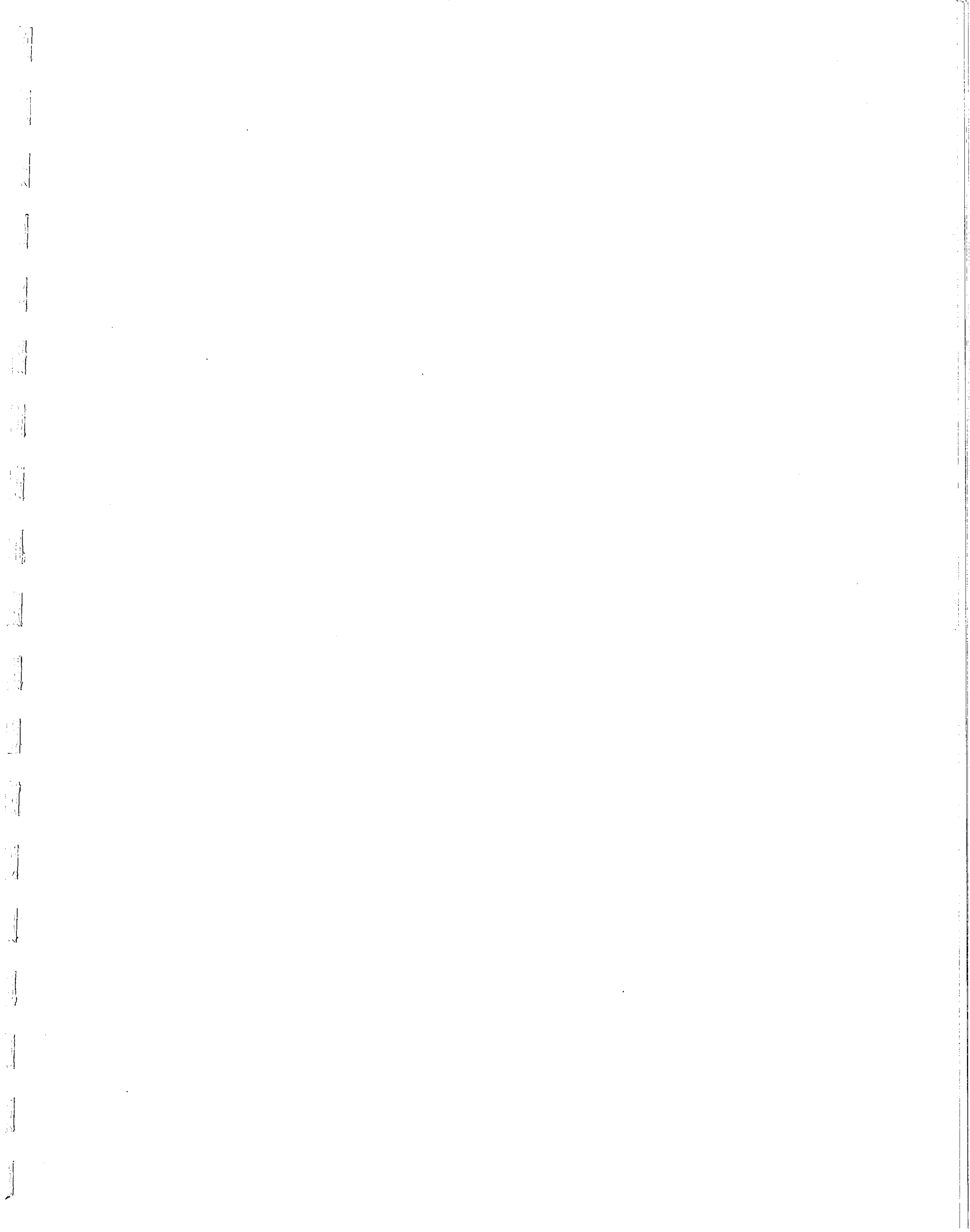


— Results from the ADA/Colgate Survery —

Table 1

Observed a Change in the Incidence of Various Chronic Illnesses Among Respondents' Patients Over the Last Five Years

	(Base:)	Increase	Decrease	No Change
Diabetes	(448)	31%	5%	64%
HIV	(448)	55%	2%	43%
Heart disease	(448)	51%	7%	42%
Cancer	(448)	49%	6%	44%
Pulmonary conditions	(448)	38%	7%	54%
High blood pressure	(448)	53%	5%	42%
Allergies	(448)	61%	3%	36%
Eating disorders	(448)	34%	7%	59%

Table 2

Average Patient Age

Total Base: (448)

Under 18	8%
18-24	4%
25-40	42%
41-55	37%
56-64	5%
65 or older	4%

Table 3

Change in the Prevalence of Caries Among Various Age Groups Over the last Five Years

	(Base:)	Increase	Decrease	No Change
Under 18	(448)	14%	64%	23%
18-24	(448)	15%	54%	31%
25-40	(448)	15%	35%	50%
41-55	(448)	25%	21%	55%
56-64	(448)	44%	15%	42%
65 or older	(448)	50%	12%	38%

Table 4

Proportion of Patients Under Age 18 Who Exhibit Dental Fluorosis.

Total Base: (448)

None	22%
1-4%	45%
5-9%	17%
10-14%	8%
15-19%	3%
20% or more	3%

Table 5

Proportion of Adults Who Receive Preventive Fluoride Treatments in Respondents' Offices

Total Base: (448)

None	16%
1-4%	29%
5-9%	13%
10-14%	11%
15-19%	5%
20% or more	25%

Table 6

Proportion of Adults Over Age 55 Who Have Had Root Caries

Total Base: (448)

Less than 10%	15
10-24%	29
25-49%	28
50-74%	20
75-100%	8

Table 7

How Respondents Would Treat Early Root Caries Lesions

Total Base: (448)

Put a "watch" on it	9%
Office fluoride treatments	13%
Home fluoride treatments	36%
Cervical composites	21%
Glass ionomer cements	21%

Table 8

Change in the Prevalence of Periodontitis Among Various Age Groups Over the Last Five Years

	(Base:)	Increase	Decrease	No Change
Under 18	(448)	21%	10%	68%
18-24	(448)	25%	11%	64%
25-40	(448)	56%	10%	34%
41-55	(448)	58%	11%	31%
56-64	(448)	50%	10%	40%
65 or older	(448)	49%	8%	43%

Table 9

Change in the Prevalence of Gingivitis Among Various Age Groups Over the Last Five Years

	(Base)	Increase	Decrease	No Change
Under 18	(448)	45%	12%	42%
18-24	(448)	41%	15%	45%
25-40	(448)	35%	15%	50%
41-55	(448)	32%	11%	57%
56-64	(448)	31%	10%	59%
65 or older	(448)	33%	9%	58%

Table 10

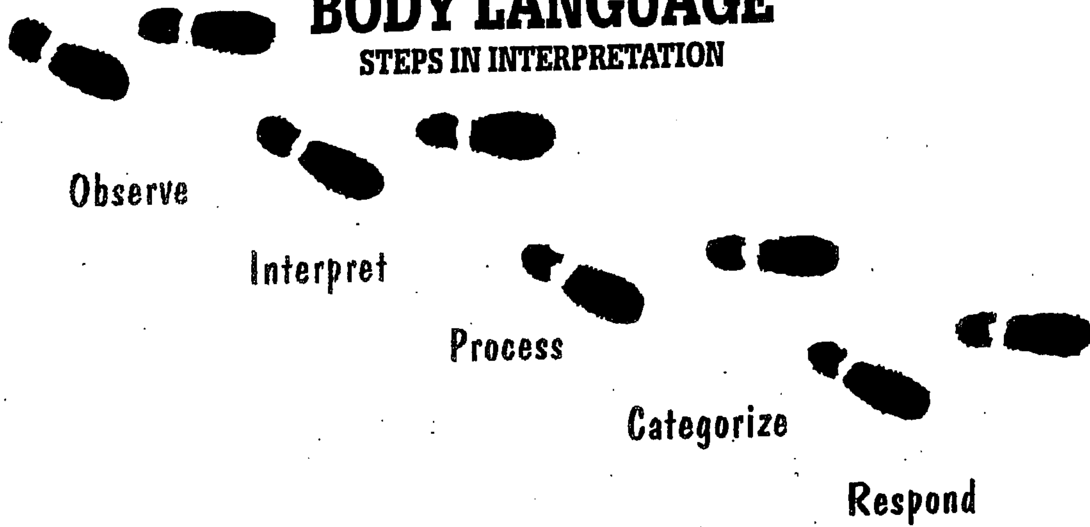
Whether Respondents Treat Various Types of Periodontitis Within Their Practices or Refer Patients to Specialists

Total Base: (448)

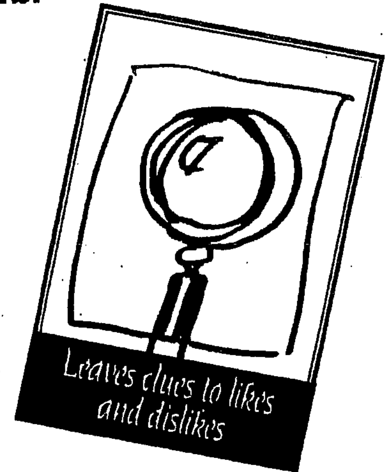
Type II (mild)		Type III (moderate)		Type IV (severe)	
Within the practice	94%	Within the practice	66%	Within the practice	10%
Refer to a specialist	6%	Refer to a specialist	34%	Refer to a specialist	90%

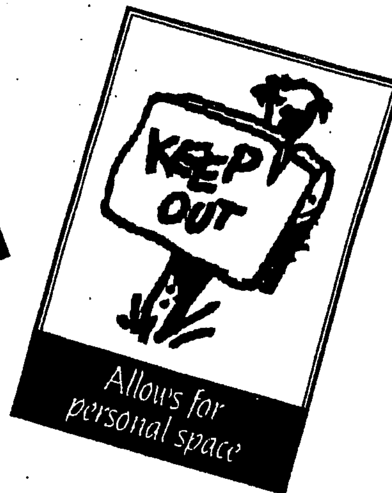
BODY LANGUAGE

STEPS IN INTERPRETATION



WHAT BODY LANGUAGE SAYS:





How to Handle Dementia Patients

- **Direct eye contact at eye level**
- **Speak loudly and clearly**
- **Focus**
- **Repeat if necessary**
- **Ask for feedback**
- **Ask if they understand you**
- **Make drawings**

- Ask them to make a drawing
- Tape record the session and give it to them
- See them early in the day
- Make sure they have had their medication
- Do not over medicate them or sedate them
- Keep smiling!

WH... FOR IN T... OF THE GERIATRIC ... AND HEAD AND

1. H= HEARING

2. E= EYES(MOVEMENT,PERLA,NEVI,SCLERA,COLOR)
3. A= ALIGNMENT (OCCLUSION,EXCURSIVE MOVEMENTS)
4. D= DILUENT (SALIVA- CONSISTENCY/ FLOW)
5. A= ANATOMY (INTRA-ORAL/EXTRA-ORAL LANDMARKS)
6. N= NODES (AURICULAR,CERVICAL,OCCIPITAL,SUBMAND.)
7. D= DEXTERITY (OPENING/CLOSING, EXCURSIVE MOVEMENT)
8. N= NERVOUS SYSTEM (SWALLOWING,TONGUE MOVEMENT)
9. E= ENAMEL (WEAR,CARIES,EROSION,ABFRACTION,RESTORE)
10. C= CERVICAL GINGIVAL HEALTH/PERIODONTAL DISEASE
11. K= KICK OR GAIT (BODY LANGUAGE,MOVEMENTS)

12. E= EVALUATE
13. X= RADIOGRAPH
14. A= ASSESSMENT
15. M=MANAGEMENT (TREATMENT PLAN)

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EXAMINATION TECHNIQUE IN NEW DENTAL PATIENT AT THE OFFICE.............

1. PERSONALLY GREET THE PATIENT IN THE RECEPTION ROOM
2. INTRODUCE YOURSELF, QUESTION THE PATIENT AS TO WHETHER THEY ARE INDEED THE PATIENT IN QUESTION AND ASK HOW THEY WOULD LIKE TO BE ADDRESSED (IE: Mr. Smith or Joe)
3. TAKE THE PATIENT TO A RELATIVELY QUIET PRIVATE OFFICE OR YOUR PERSONAL PRIVATE OFFICE, IF APPLICABLE
4. THANK THE PATIENT FOR BEING THERE AND CHOOSING YOU AS THEIR NEW DENTIST
5. INFORM THE PATIENT ABOUT THE NATURE OF THE DISCUSSION TO ENSUE. GO OVER ALL THE FORMS AND WHAT THEY ARE ALL ABOUT
6. USE THE ADDENDUM FORM AND TELL THE PATIENT THAT " THESE ARE THE REALLY HARD QUESTIONS BECAUSE NO ONE USUALLY THINKS ABOUT THEM."
7. GO OVER THE HISTORY FORMS WITH THE PATIENT INCLUDING MEDICAL AND DENTAL HISTORIES
8. DON'T FORGET TO ASK IF THEY ARE TAKING ANY MEDICINES OR "PILLS". THEN AS K IF THEY TAKE VITAMINS OR HERBAL SUPPLEMENTS. I EXPLAIN TO THE PATIENT THAT THESE CAN ALL AFFECT THE PATIENTS OVERALL HEALTH AND IT IS IMPORTANT TO KNOW WHAT THEY TAKE ON A ROUTINE BASIS
9. GO BACK TO THE TREATMENT ROOM INTRODUCING THE PATIENT TO THE STAFF AND THE OFFICE ALONG THE WAY

10. ONCE IN THE OPERATORY, TAKE FACIAL PHOTO AND BLOOD PRESSURE AND BEGIN THE EXAMINATION PROCESS.

11. ASK THE PATIENT IF IT IS OK TO RECLINE THEM IN THE CHAIR. USE TOUCH ON THE ARM OR SHOULDER WHEN YOU ASK AND WHEN THE CHAIR IS BEING RECLINED. THIS IS DONE FOR REASSURANCE

12. BE AWARE OF ANY CHANGE IN THE PATIENTS' BODY LANGUAGE AS THE CHAIR IS RECLINED AND BE PREPARED TO ADDRESS THE PATIENTS APPARENT EMOTIONS AT THE TIME

13. TELL THE PATIENT WHAT YOU ARE DOING OR INTEND ON DOING BEFORE YOU DO IT , IN ORDER TO ASSUAGE ANY ANXIETY(MOST FEAR COMES FROM NOT KNOWING WHAT TO EXPECT)

14. GIVE THE PATIENT PERMISSION TO RAISE THEIR HAND SHOULD THEY WISH TO STOP AT ANY TIME. BE SURE TO HONOR THIS AS IT EFFECTS THE LEVEL OF TRUST YOU WILL HAVE WITH THE PATIENT

15. AFTER COMPLETING THE EXAMINATION PROCESS AND ANY INTRAORAL PHOTOS, ASSESS THE NEED TO TAKE RADIOGRAPHS AND IMPRESSIONS FOR STUDY MODELS

16. GIVE THE PATIENT ANY LITERATURE ABOUT PERIODONTAL DISEASE OR TMJ ETC BEFORE LEAVING THEM

17. TELL THE PATIENT WHAT TO EXPECT AT THE NEXT VISIT, THE TREATMENT CONFERENCE

18. THANK THE PATIENT FOR COMING INTO THE OFFICE AND ASK IF THE EXPERIENCE WAS A GOOD ONE FOR THEM OR IF THEY HAD ANY CONCERNS ABOUT THE EXAM, YOURSELF, OR THE ASSISTANT(THIS WILL HELP TO ALLEVIATE ANY FUTURE PROBLEMS THE PATIENT MAY HAVE IN THE OFFICE

19. BE SURE TO SHAKE THE PATIENTS HAND WHEN THANKING THEM OR TOUCH THEM GENTLY ON THE SHOULDER. REMEMBER 'TOUCH' IS OUR MOST INTIMATE FORM OF COMMUNICATION. JUST WATCH WHERE YOU TOUCH!

QUESTIONS TO ANSWER WHEN TREATMENT PLANNING FOR OLDER PATIENTS

- **PATIENT ATTITUDE:** To what degree does the patient desire dental treatment and will he or she give their informed consent to institute treatment?
- **QUALITY OF LIFE:** How much is the patient affected either physically or emotionally by the dental problem and how will he or she respond to different levels of treatment?
- **LIMITATIONS OF TREATMENT:** How much do existing medical, psychological, or social problems limit the patient's ability to benefit from treatment? (It is imperative to take a careful medical and drug history and to understand the oral implications of the history).
- **IATROGENIC POTENTIAL:** How much possibility is there of creating iatrogenic problems, either by medical emergency, a drug reaction, or a dental problem associated with the projected or accepted treatment plan?
- **PROGNOSIS:** What are the consequences of not treating the dental problem, and how long should the treatment be delayed?
- **DENTIST'S LIMITATIONS:** Does the doctor have the equipment, skill, and experience to provide the appropriate therapy at the appropriate site?
- **STAFF RESPONSIVENESS:** Does the staff have the training, expertise, knowledge of the patient, and are they able to give emotional support to patient care?
- **FINANCES:** Does the patient have the appropriate finances for the treatment being planned? How can you make it affordable for the patient?

TABLE 2

Factors contributing to poor dietary intake among elderly people.

FACTOR	SOURCES OF PROBLEMS
Problems With Food Preparation and Eating	Visual acuity, joint problems, hand tremors
Shopping Difficulties	Mobility problems, homebound
Depression	Isolation, bereavement
Poverty	Homebound, disease
Dementia	—
Anorexia	Disease, loss of taste and sensory perception, depression
Medications	Reduced appetite, reduced salivary flow
Acute Illness	Hospitalization, anorexia, nausea, obstruction of gastrointestinal tract
Institutionalization	Lack of supervision and assistance at mealtimes, lack of food choice
Poor Dentition	Biting and chewing problems, taste perception, lack of confidence about eating in public, reduced enjoyment of food
Reduced Salivary Flow	Medications, sore mouth, oral infections, reduced taste perception

* Not applicable.

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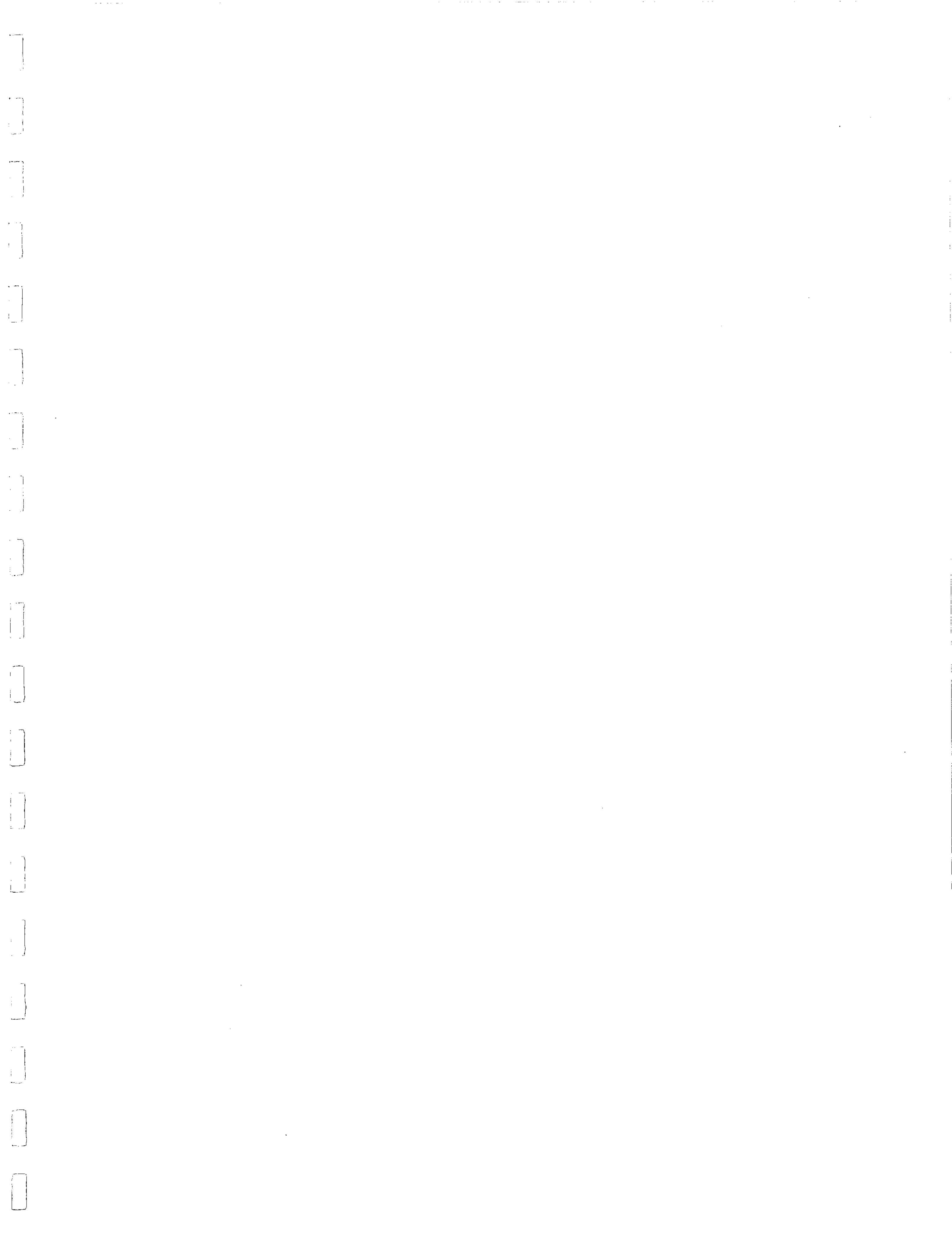
RED FLAGS TO CONSIDER WHEN TREATING DENTAL PATIENTS

Symptom or Condition

Dry Mouth; Sjogren's Syndrome
Rheumatoid or Osteo-Arthritis, Arthritis
COPD and/or Asthma
Recent artificial joint or transplant patient
Diabetic- type I and II
Alcoholic (non-reformed)
Patients on Coumadin, Plavix, or Aspirin therapy
Patients on anti-psychotics, anti-depressants, and anti-seizure medication
Bleeding Disorder or Excessive bleeder
Smoker or Chewer
Parkinson's disease
Alzheimer's disease
Dementia (many different kinds)
Seizure Disorder
Cancer patients
Chronic pain patient
Anxiety Disorder
Personality Disorder
Auto-Immune Disease
Hearing Impaired
Vision Impaired
Chronic Depression or Dysthymia
Ulcerative Colitis or Crohn's Disease
Osteoporosis (Especially on medication)



SUMMARY OF ORAL SEQUELAE OF COMMONLY USED GERIATRIC MEDICATIONS

Drug category	Drug	Oral Problem
Analgesics	Aspirin	Hemorrhage, Erythema multiforme
	NSAIDS	Hemorrhage
	Barbiturates,codeine	Erythema multiforme, Xerostomia or Ropey saliva
Anesthetics (local)	Benzocaine, procaine hydrochloride, Lidocaine	Taste disorders
Antiarrhythmics	Procainamide	Lupus-like reaction
	Quinidine	Lichenoid mucosal reaction
Antiarthritic, Antipyretic, Anti-inflammatory	Allopurinal, auronofin, colchicines, dexamethasone, hydrocortisone, levamisole, D-penicllamine, Phenylbutazone, salicylates, 5-thiopyridoxine	Taste disorders
	Gold salts	Taste disorders, lichenoid reaction, oral pigmentation, Vesiculoulcerative stomatitis
Antibiotics	All	Oral candidiasis
	Erythromycin	Hypersensitivity reaction, Erythema Multiforme, vesiculoulcerative stomatitis
	Penicillin	Hypersensitivity reaction, Erythema. Multiforme, vesiculoulcerative Stomatitis
	Chloramphenicol, ciprofloxin, Clindamycin,dapsone,isoniazid, Sulfa antibiotics, tetracyclines	Erythema multiforme
	Minocycline	Melanosis
	Chlorhexidine	Brown pigmentation of teeth and tongue
	Ampicillin, cefamandole,ethambutol Hydrochloride,griseofulvin,lincomycin, Metronidazole, niridazole,sulfasalazine, Tetracyclines	Taste disorders
Anticoagulants	All	Hemorrhage
Anticonvulsants	Carbamazine	Erythema multiforme, taste disorders
	Phenytoin	Erythema multiforme, gingival enlargement, taste disorder
Antidiarrhea	Bismuth	Dark pigmentation of the tongue,sometimes the gingival
Antihistamines	All	Salivary dysfunction
	Chlorphenaramine maleate	Taste disorders
Antihypertensives		
	Calcium channel blockers	Gingival enlargement
	ACE Inhibitors	Vesiculoulcerative stomatitis,pemphigus vulgaris
	Chloramphenicol	Vesicululcerative stomatitis
	Hydralazine	Lupus-like reaction and Erythema multiforme
	Methyldopa	Lupus-like reaction and lichenoid mucosal reaction
	Thiazide diuretics	Lichenoid mucosal reaction
	Minoxidil, verapamil	Erythema multiforme
	Acetazolamide, amiloride, captopril Diazoxide, diltiazem,enalapril maleate, Ethacrynic acid, nifedipine	Taste disorders
Antilipidemics	Cholestyramine, clofibrate	Taste disorders
Antimicotics	Griseofulvin	Erythema multiforme, black pigmentation of the tongue
	Amphotericin B	Taste disorder
Antineoplastics	All	Oral candidiasis, hemarrage,recurrent oral viral infection, Apthous stomatitis, vesiculoulcerative stomatitis
Antiparkinsonian	All	Salivary dysfunction
	Levodopa	Taste disorders
Antireflux agents	All	Salivary dysfunction
	Cimetidine	Erythema multiforme
Antithyroids	Carbimazole, methimazole, Methylthiouracil, propylthiouracil, Thiouracil	Taste disorders
Antioxidants	Octyl gallate	Allergic ulcerations
Anxiolytics	Benzodiazapenes	Salivary dysfunction
Chelating agents	Penicillamine	Ulcers and pemphigus vulgaris
Coricosteroids, Immunosuppressants	All Azathioprine,bleomycin,5-FU,methotrexate	Oral candidiasis, recurrent oral viral infections, Vesiculoulderative stomatitis,taste disorders

Drug Category	Drug	Oral Problem
____________	Cyclosporine	Gingival enlargement
Hypoglycemics	Sulfonylurea agents	Erythema multiforme
	Glipizide, phenformin and derivatives	Taste disorders
Muscle relaxants	All	Salivary dysfunction
	Baclofen, chlorzoxazone	Taste disorders
Others	Etidronate, germine monoacetate, Idoxuridne, iron sorbitex vitamin D	
Taste disorders		
Psychotropics	All	Salivary dysfunction
	Glutethimide, meprobamate	Erythema multiforme
	Pheonthiazines	Oral pigmentation, tardive dyskinesia
	Lithium carbonate	Erythema multiforme
	Trifluoperazine hydrochloride	Taste disorders
Sympathomimetics	Amphetamines, amrinone	Taste disorders
Vasodilators	Bamafyline hydrochloride, dipyridamole, Nitroglycerin patch, oxyfedrine	Taste disorders

Drugs causing dry mouth

Drug category	Brand name	Generic name
ANOREXIANT	Adipex-P, Fastin, Ionamin	phentermine
	Anorex	phendimetrazine
	Pondimin	fenfluramine
	Tenuate, Tepanil	diethylpropion
ANTIACNE	Accutane	isotretinoin
ANTIANXIETY	Ativan	lorazepam
	Centrax	prazepam
	Equanil, Miltown	meprobamate
	Librium	chlordiazepoxide
	Serax	oxazepam
	Valium	diazepam
	Xanax	alprazolam
ANTICONVULSANT	Tegretol	carbamazepine
ANTIDEPRESSANT	Asendin	amoxapine
	Aventyl, Pamelor	nortriptyline
	Desyrel	trazodone
	Elavil, Endep	amitriptyline
	Etrafon	amitriptyline perphenazine
	Marplan	isocarboxazid
	Ludiomil	maprotiline
	Nardil	phenelzine
	Parnate	tranylcypromine
	Paxil	paroxetine
	Pertofrane	desipramine
	Prozac	fluoxetine
	Sinequan, Adapin	doxepin
	Tofranil	imipramine
	Zoloft	sertraline

SOURCE: GAGE, PICKETT
MOSBY DENTAL DRUG REFERENCE

Drug category	Brand name	Generic name
ANTIDIARRHEAL	Imodium AD Lomotil	loperamide diphenoxylate atropine
ANTINAUSEANT	Antivert Atarax, Vistaril Dramamine	meclizine hydroxyzine dyphenhydramine
ANTIHISTAMINE	Actifed	triprolidine pseudoephedrine
	Benadryl	diphenhydramine
	Chlor-Trimeton	chlorpheniramine
	Dimetane	brompheniramine
	Dimetapp	brompheniramine phenylpropanolamine
	Phenergan	promethazine
	Pyribenzamine (PBZ)	tripelennamine
	Seldane	terfenadine
ANTICHOLINERIGIC/ ANTISPASMODIC	Anaspaz	hyoscyamine
	Atropisol	atropine
	Banthine	methantheline
	Bellergal	belladonna alkaloids
	Bentyl	dicyclomine
	Darbid	isopropamide
	Daricon	oxyphencyclimine
	Ditropan	oxybutynin
	Donnatal, Kinesed	hyoscyamine atropine phenobarbital scopolamine
	Librax	chlordiazepoxide clidinium
	Pamine	methscopolamine
	Pro-Banthine	propantheline
	Transderm-Scop	scopolamine
ANTIHYPERTENSIVE	Capoten	captopril
	Catapres	clonidine
	Ismelin	guanethidine
	Minipress	prazosin
	Serpasil	reserpine

SOURCE: GAGE, PICKETT
MOSBY DENTAL DRUG REFERENCE

Drug category	Brand name	Generic name
ANTIINFLAMMATORY ANALGESIC	Dolobid	diflunisal
	Feldene	piroxicam
	Motrin	ibuprofen
	Nalfon	fenoprofen
	Naprosyn	naproxen
ANTIPARKINSONIANS	Akineton	biperiden
	Artane	trihexyphenidyl
	Congentin	benztropine mesylate
	Lardopa	levodopa
	Marflex	orphenadrine HCl
	Parsidol	ethopropazine
	Sinemet	carbidopa levodopa
ANTIPSYCHOTICS	Compazine	prochlorperazine
	Eskalith	lithium
	Haldol	haloperidol
	Mellaril	thioridazine
	Navane	thiothixene
	Orap	pimozide
	Sparine	promazine
	Stelazine	trifluoperazine
	Thorazine	chlorpromazine
	Triavil	amitriptyline perphenazine
BRONCHODILATOR	Isoprel	isoproterenol
	Proventil, Ventolin	albuterol
DECONGESTANT	Ornade	phenylpropanolamine chlorpheniramine
DIURETIC	Diuril	chlorothiazide
	Dyazide, Maxzide	triamterene hydrochlorothiazide
	Dyrenium	triamterene
	HydroDiuril, Esidrix	hydrochlorothiazide
	Lasix	furosemide
MUSCLE RELAXANT	Flexeril	cyclobenzaprine
	Norflex, Disipal	orphenadrine

Drug category	Brand name	Generic name
NARCOTIC ANALGESIC	Demerol	meperidine
	MS Contin	morphine
SEDATIVE	Dalmane	flurazepam
	Halcion	triazolam
	Restoril	temazepam

SOURCE: GAGE, PICKETT
MOSBY DENTAL DRUG REFERENCE

TREATMENT PLAN FLOW-CHARTS

In an effort to "triage" dental situations that require comprehensive treatment planning, flow charts can be used to help delineate prospective treatment. These charts are based on clinical findings and may not be totally representative of your exact situation, but can be used to approximate intended care, by utilizing similar scenarios that take you down parallel paths.

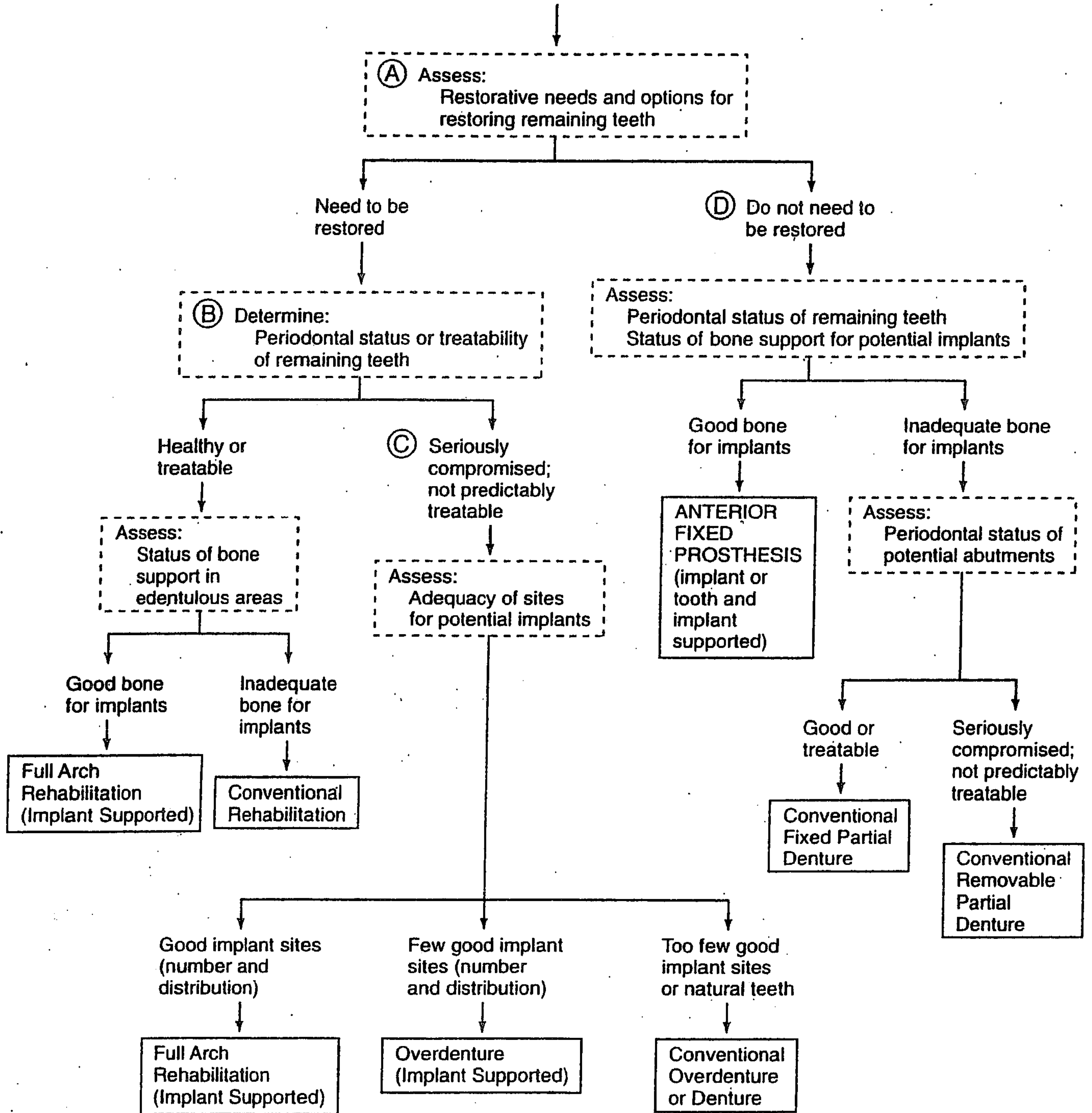
Find a path that parallels your clinical findings and utilize it to treatment plan your cases. Add or subtract steps in the line graphs that will take you to a finished product when necessary.

Remember to consider all the factors in your case findings before making a final decision about where you will go. "If you don't know where you are going, any road will take you there!"

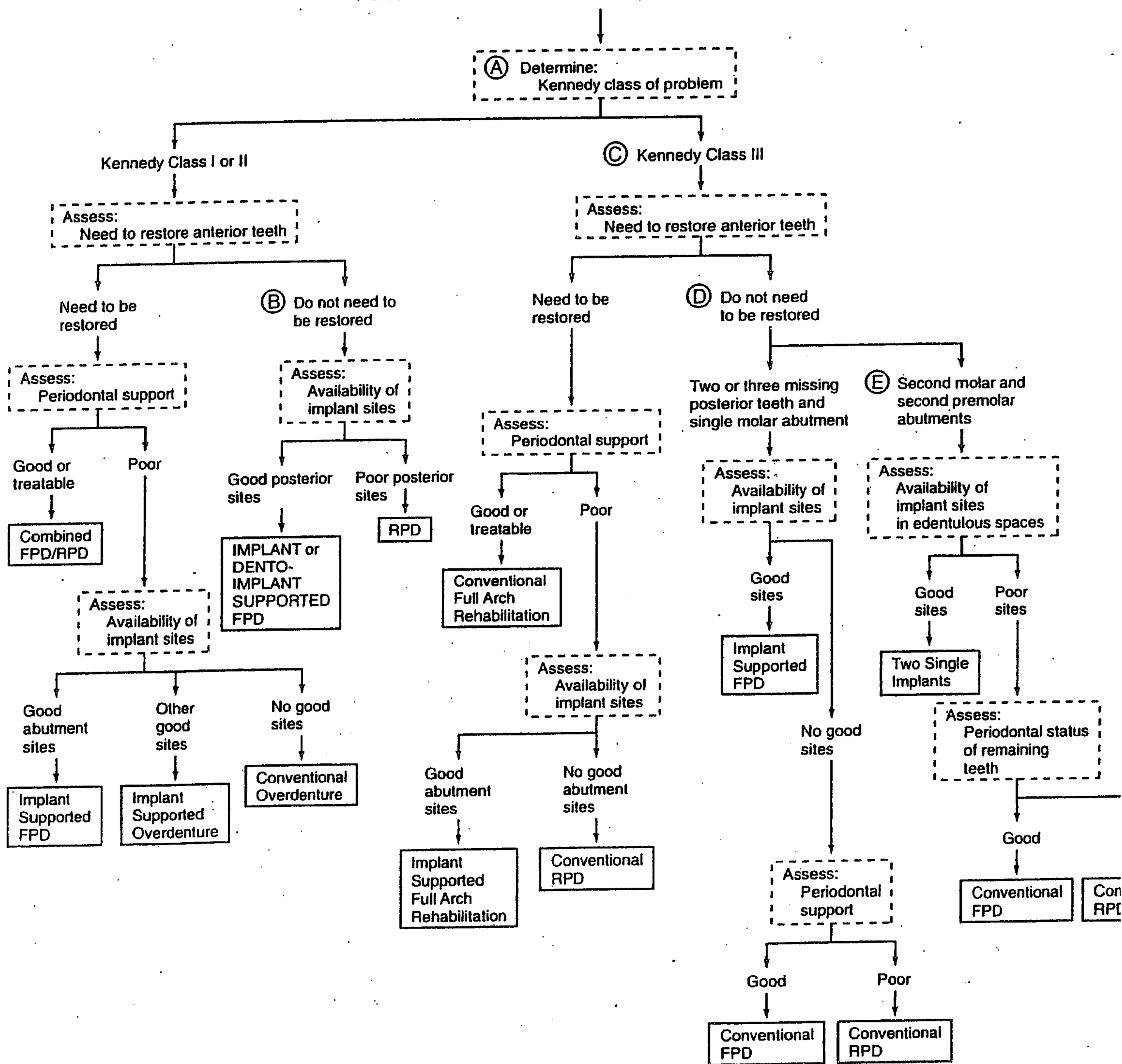
Status of the patient should be considered before choosing a flow chart. Take a thorough medical, dental, financial and emotional history in the process. Then ask the patient what they would like and discuss the feasibility of it all with them. Make at least one alternate treatment plan that will provide you with an esthetic, functional and adequate result.

Try not to compromise the condition of the patient's mouth from the "ideal" to the alternate treatment plan. Consider the "negatives" in alternate treatment planning and *work backwards.**** Remember, once you start your treatment, you are "married" to the patient!

DENTAL
FLOW CHARTS



SOURCE: HALL, ROBERTS, LA BARRE
DENTAL TREATMENT PLANNING

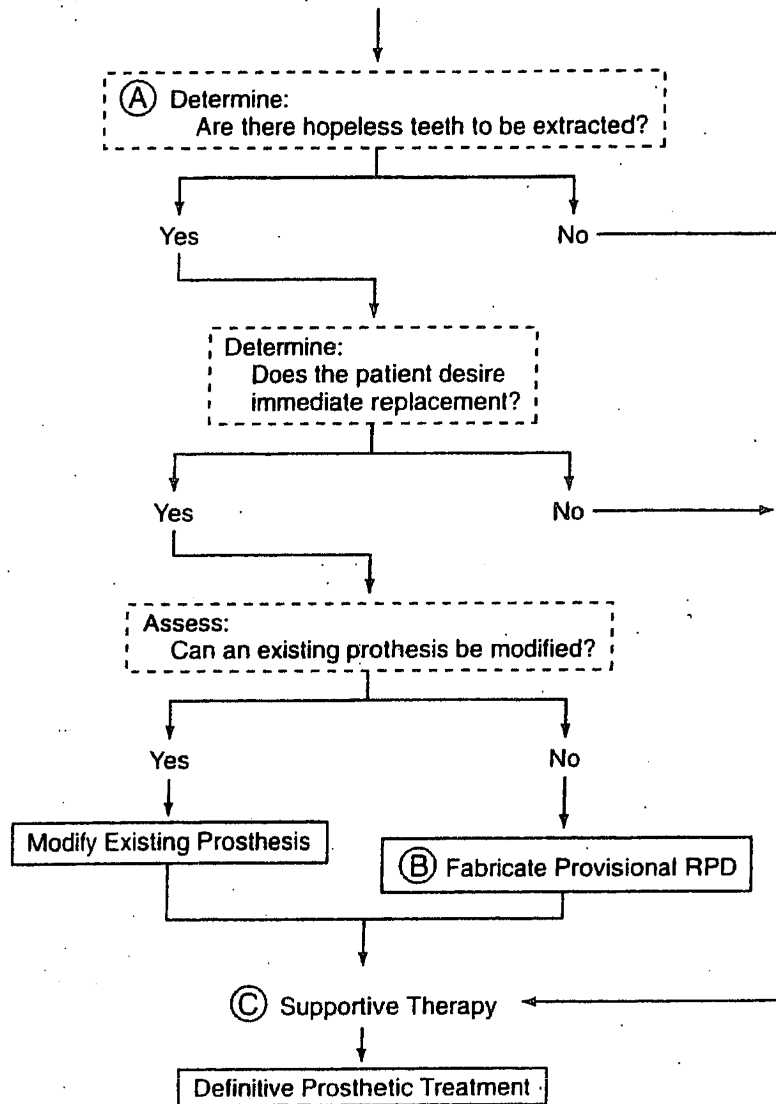


SOURCE: HALL, ROBERTS, LA BARRE
DENTAL TREATMENT PLANNING

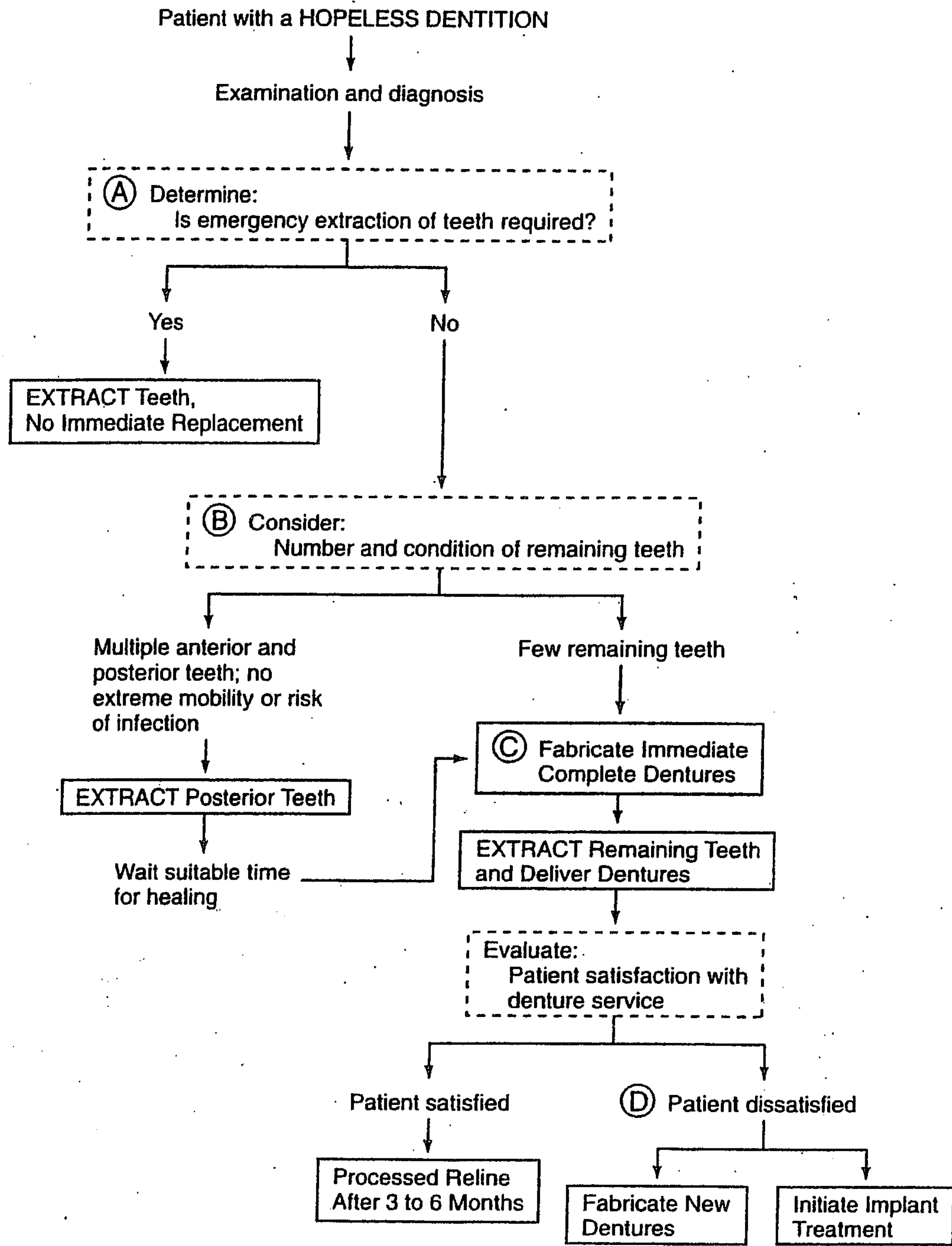
Patient with MISSING TEETH

- Ⓐ Assess: Edentulous span and functional requirements
  - Consider: Location
    - Anterior
      - 1-4 Teeth missing
      - More than 4 teeth missing → RPD or Implants
    - Posterior
      - More than 3 teeth missing → RPD or Implants
      - 1-3 teeth missing
- Ⓑ Assess: Abutment characteristics
  - Crown-to-root ratio
    - Favorable
    - Poor → Splint
  - Mobility
    - Nonmobile
    - Mobile → Splint
  - Alignment
    - Upright
    - Tipped, nonparallel → Orthodontic Correction
  - Crown length
    - Retentive
    - Nonretentive → CROWN LENGTHENING
  - Endodontic/periodontal/restorative status
    - Favorable prognosis
    - Unfavorable prognosis → Maintain or EXTRACT
- Ⓒ Assess: Soft tissue esthetics
  - Incisal-gingival length requiring prosthetic gingiva → RPD
  - Not important → FPD

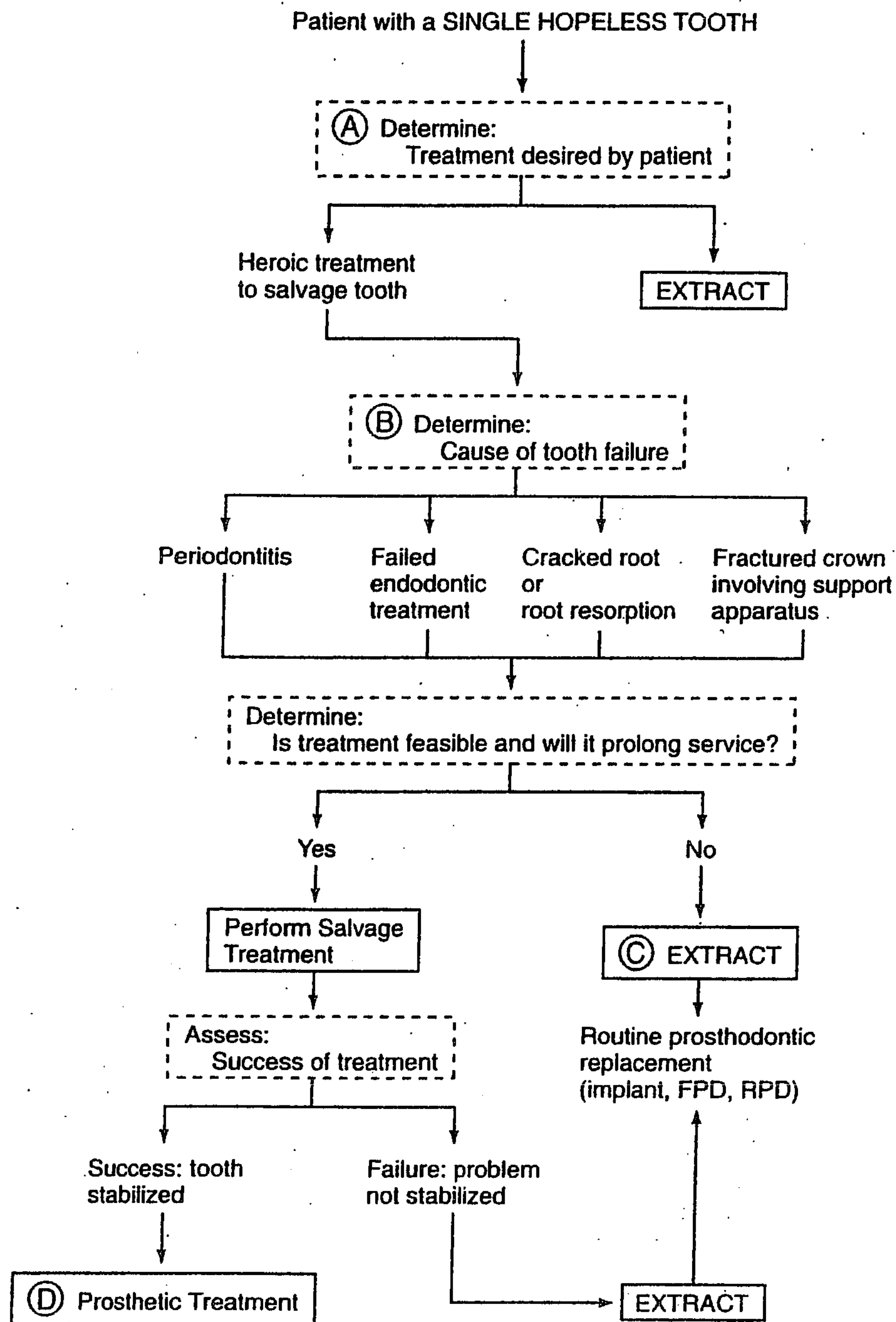
SOURCE: HALL, ROBERTS, LA BARRE
DENTAL TREATMENT PLANNING



SOURCE: HALL, ROBERTS, LA BARRE
DENTAL TREATMENT PLANNING



SOURCE: HALL, ROBERTS, LA BARRE
DENTAL TREATMENT PLANNING



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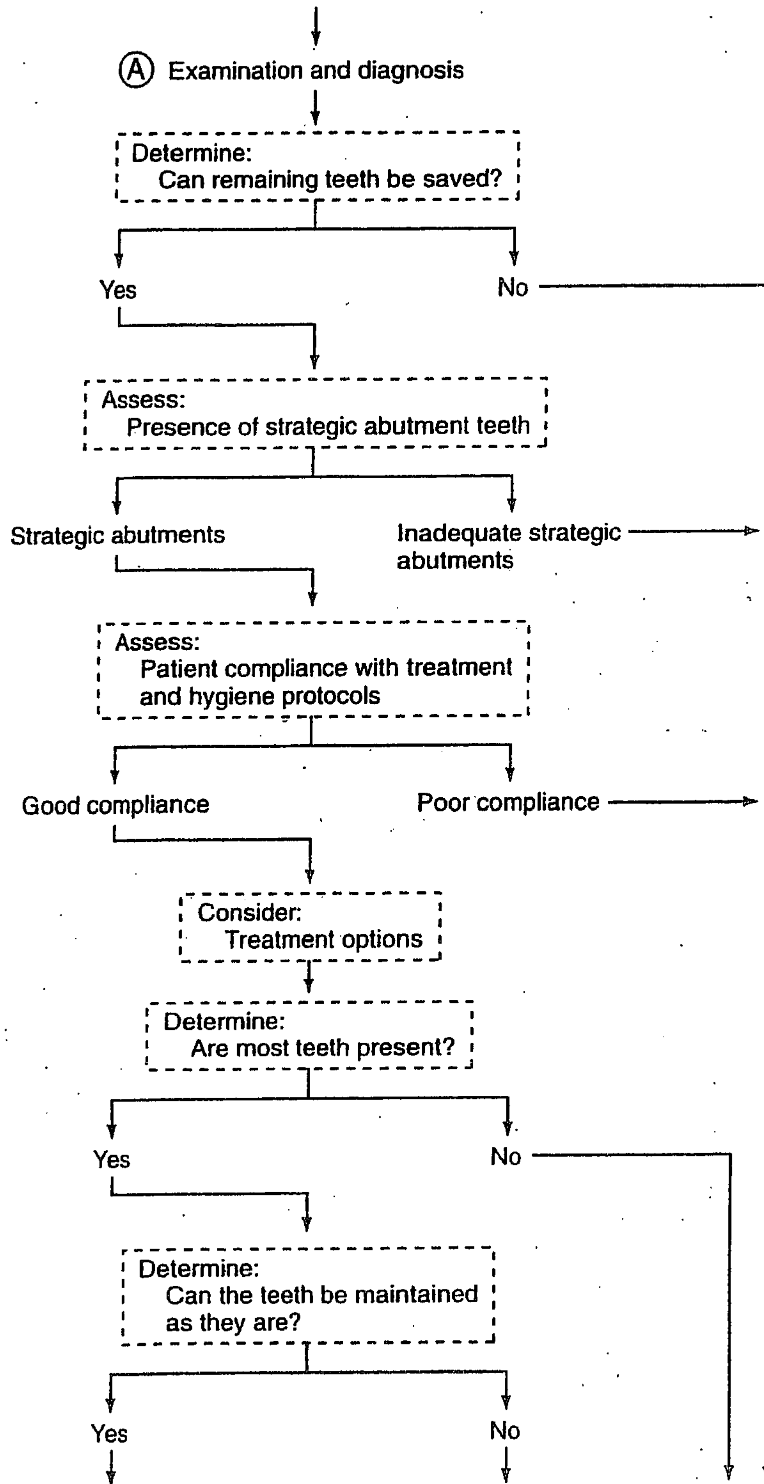

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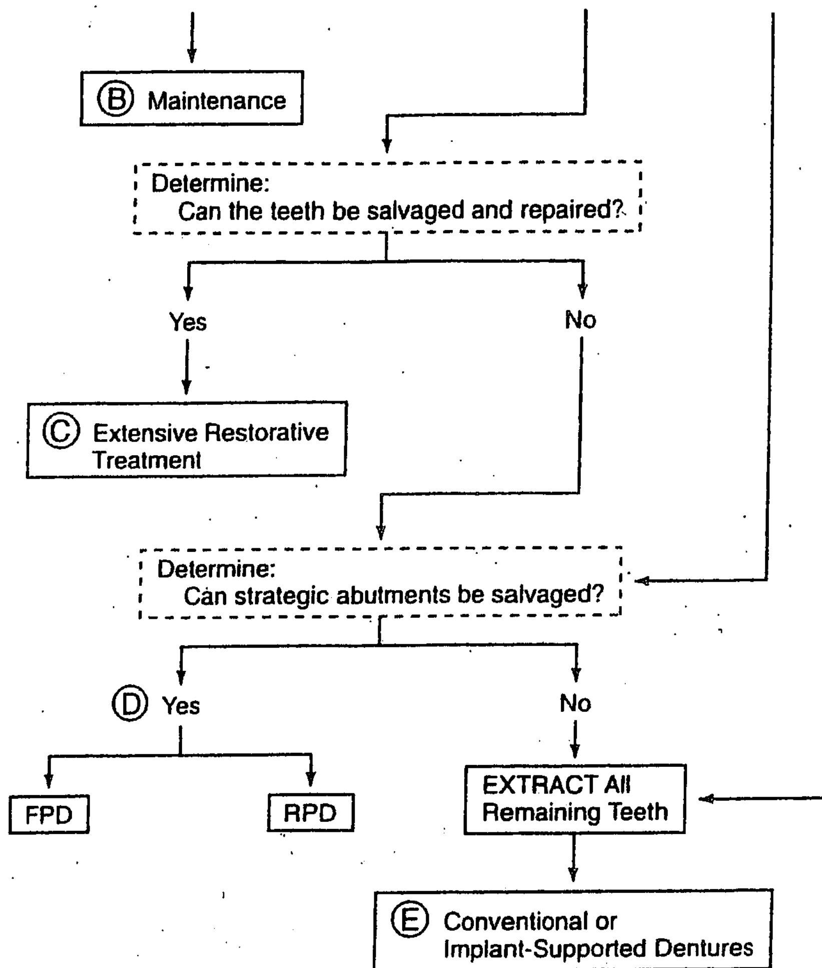
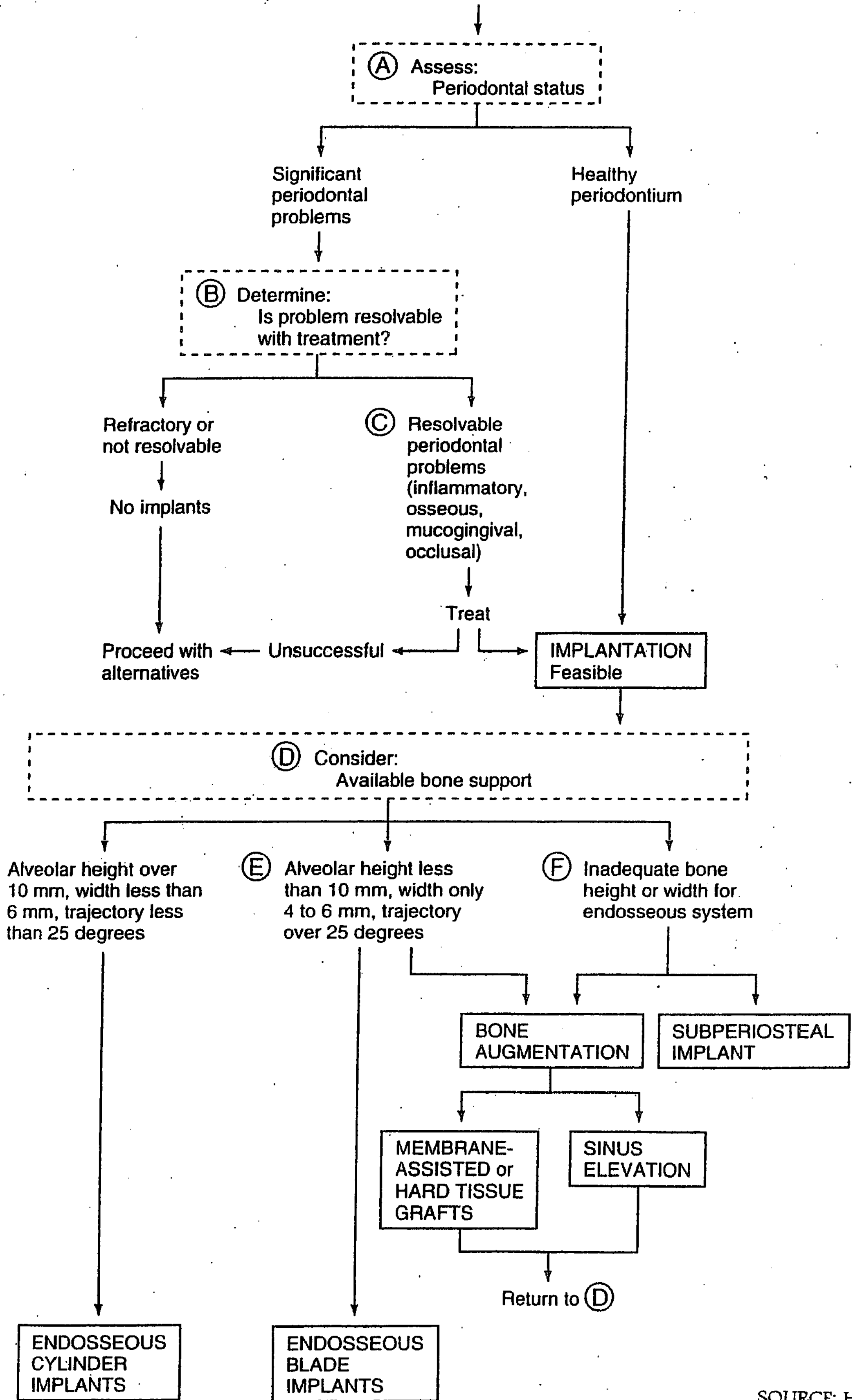


SOURCE: HALL, ROBERTS, LA BARRE
DENTAL TREATMENT PLANNING

EVALUATING PERIODONTAL STATUS OF PATIENT WHO MEETS BASIC CRITERIA FOR IMPLANT THERAPY

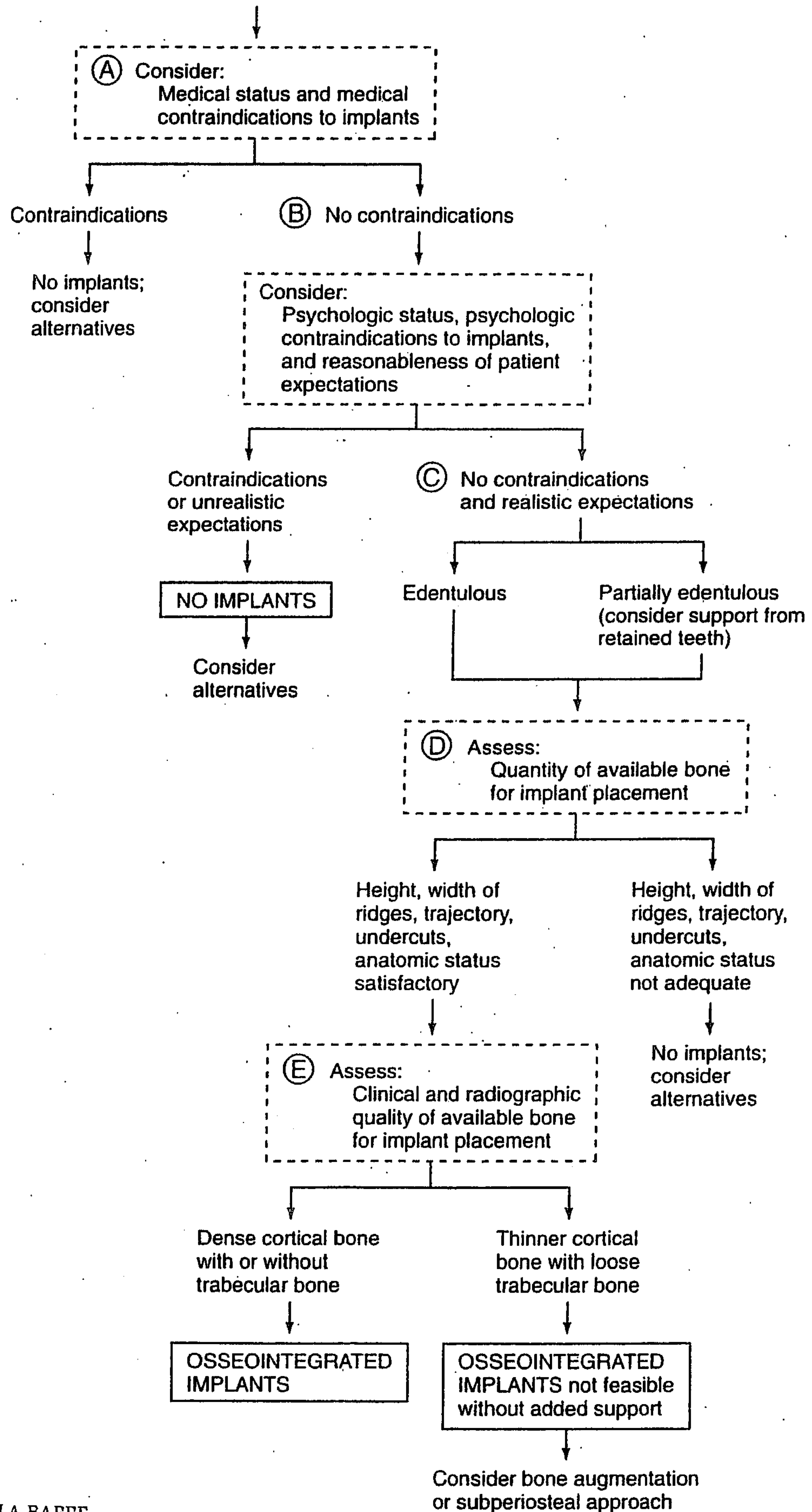


SOURCE: HALL, ROBERTS, LA BARRE
DENTAL TREATMENT PLANNING

Patient with SOME POSTERIOR EDENTULOUS AREAS IN THE MAXILLA

- (A) Conventional or computerized tomography
  - 8 mm of bone is present between the floor of the maxillary sinus and the nasal cavity and the alveolar ridge crest
    - (B) Assess: Characteristics of bone
      - Sufficient trabecular bone → Favorable for implants
        - (C) Assess: Remaining maxillary teeth
          - Sound remaining maxillary teeth
            - (D) Assess: Periodontal status
              - Periodontally compromised → TIP bridge connected telescopically to natural abutment(s) (based on two implants)
              - Not periodontally compromised → Self-retained TIP bridge (based on two implants)
          - Periodontally and/or dentally compromised teeth remaining in maxilla
            - (E) Assess: Opposing teeth
              - Natural mandibular teeth → TIP bridge connected by interlock to natural tooth abutment(s) (based on two or three implants)
              - Edentulous mandibular arch → TIP bridge connected by interlock to natural tooth abutment(s) (based on one implant)
      - Insufficient trabecular bone → Unfavorable for implants → (F)
  - Floor of the maxillary sinus or nasal cavity is 8 mm from the alveolar ridge crest → (F)
    - (F) Assess: Is posterior abutment present?
      - Free end saddle
        - Sinus lift → Two implants plus osseous graft → Self-retained TIP bridge
        - Anterior implant plus pterygomaxillary fixture → Self-retained TIP bridge
      - Posterior abutment(s) present → Conventional fixed bridge

SOURCE: HALL, ROBERTS, LA BARRE
DENTAL TREATMENT PLANNING



SOURCE: HALL, ROBERTS, LA BARRE
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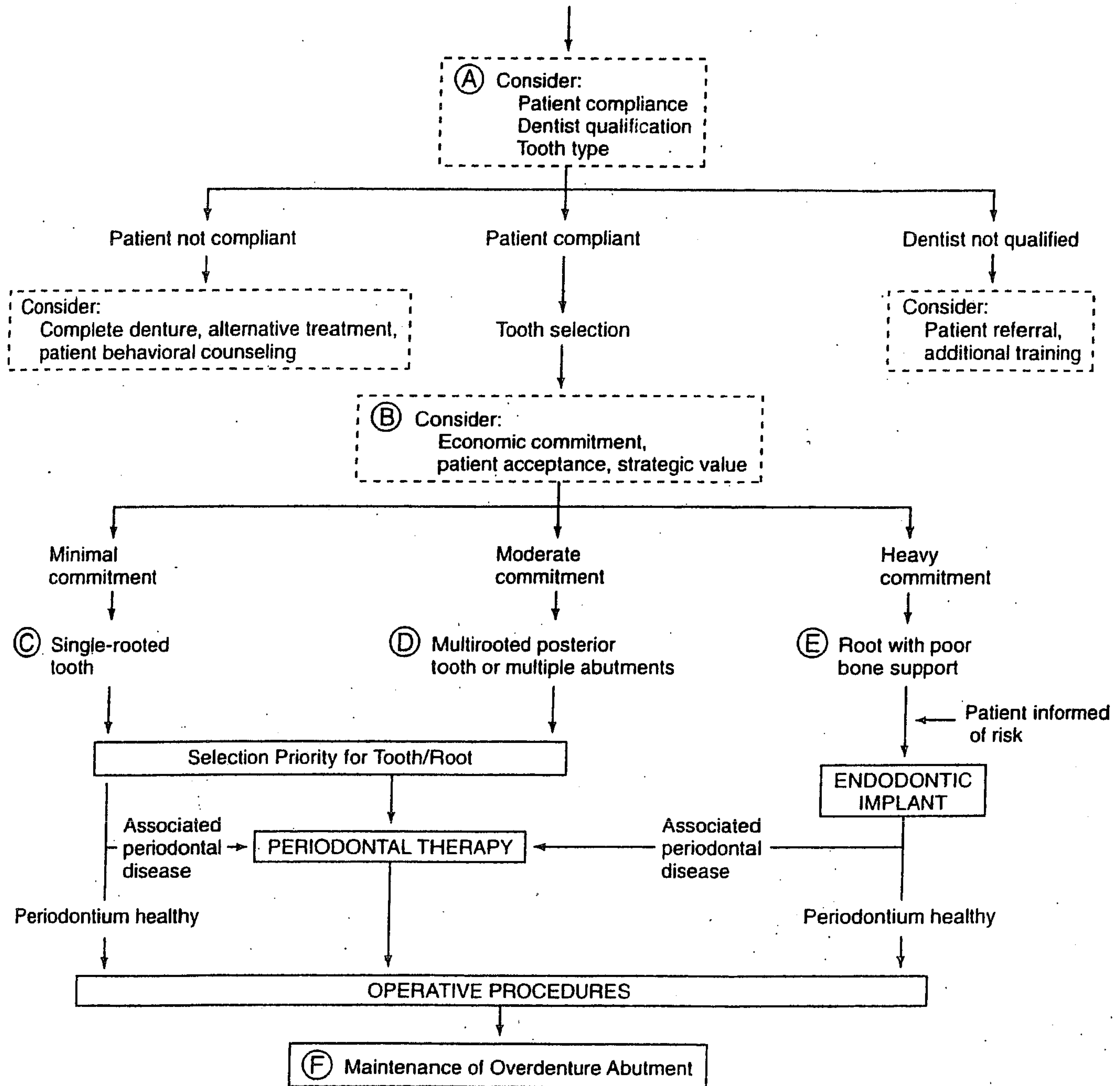

SOURCE: HALL, ROBERTS, LA BARI
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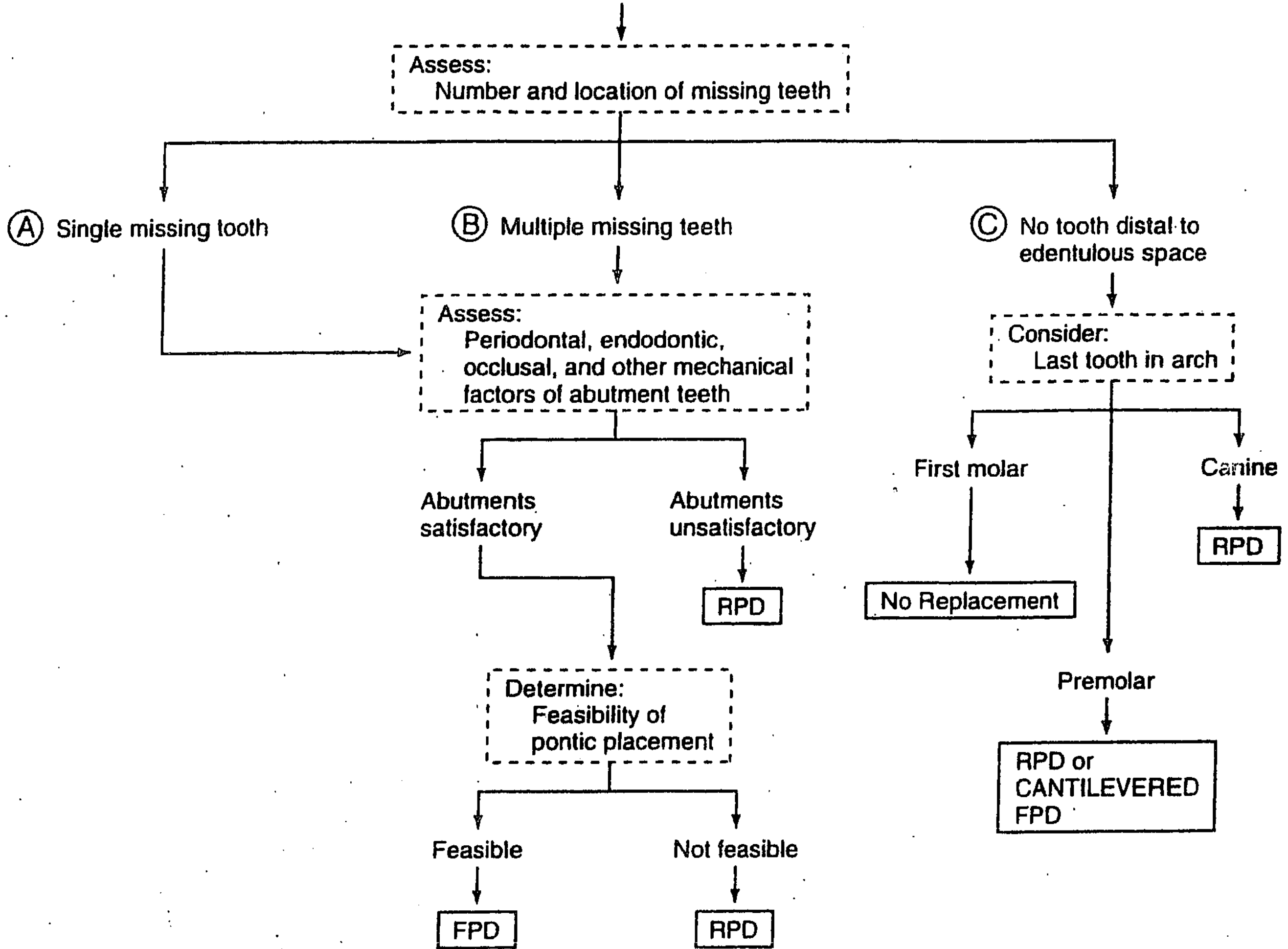

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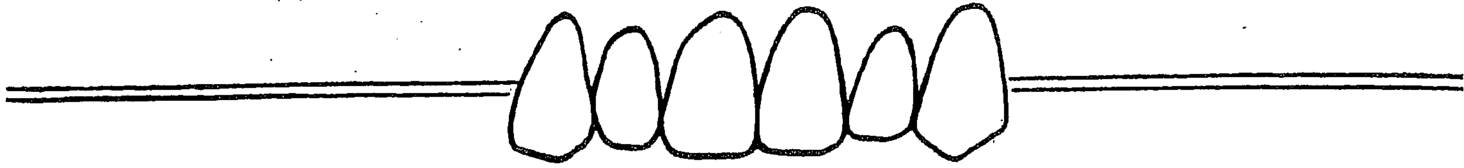

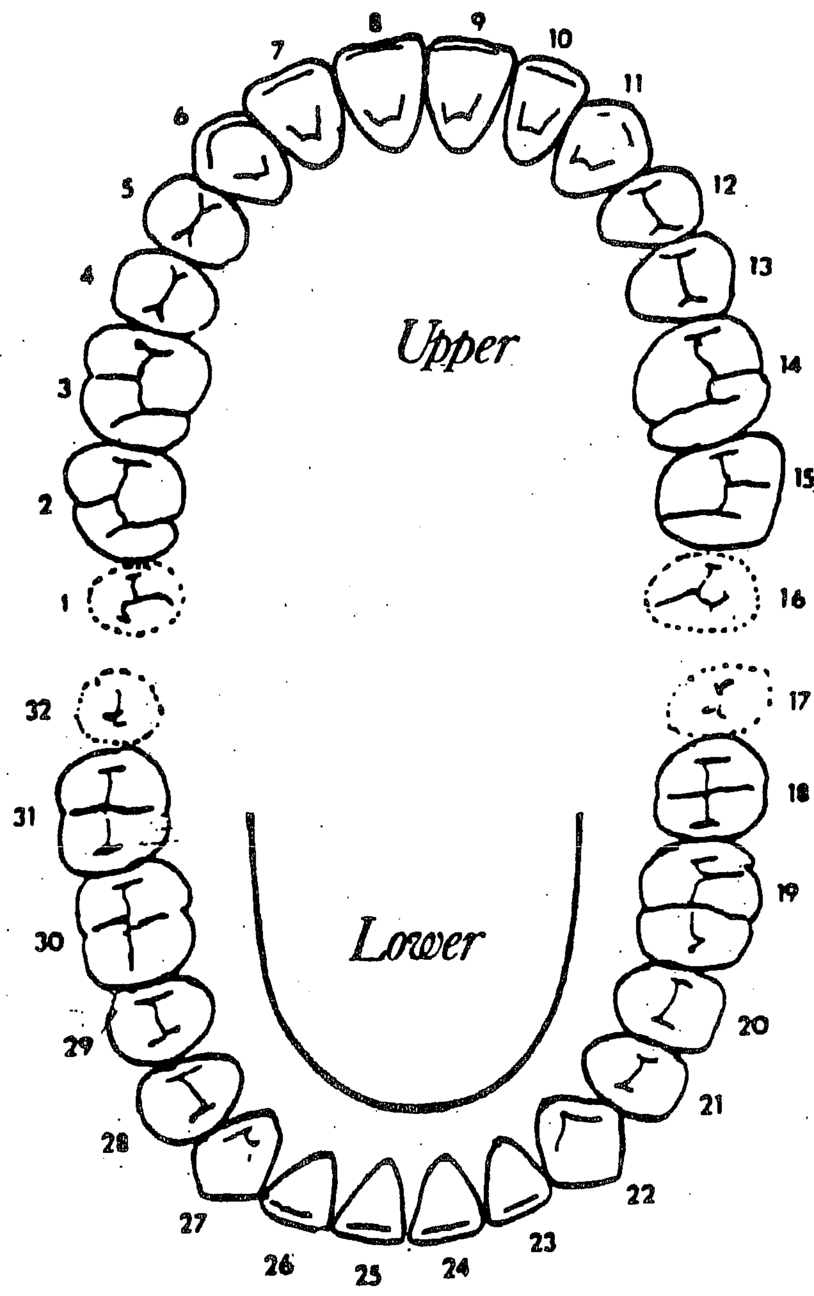

Right

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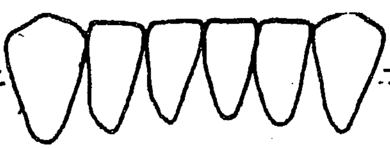
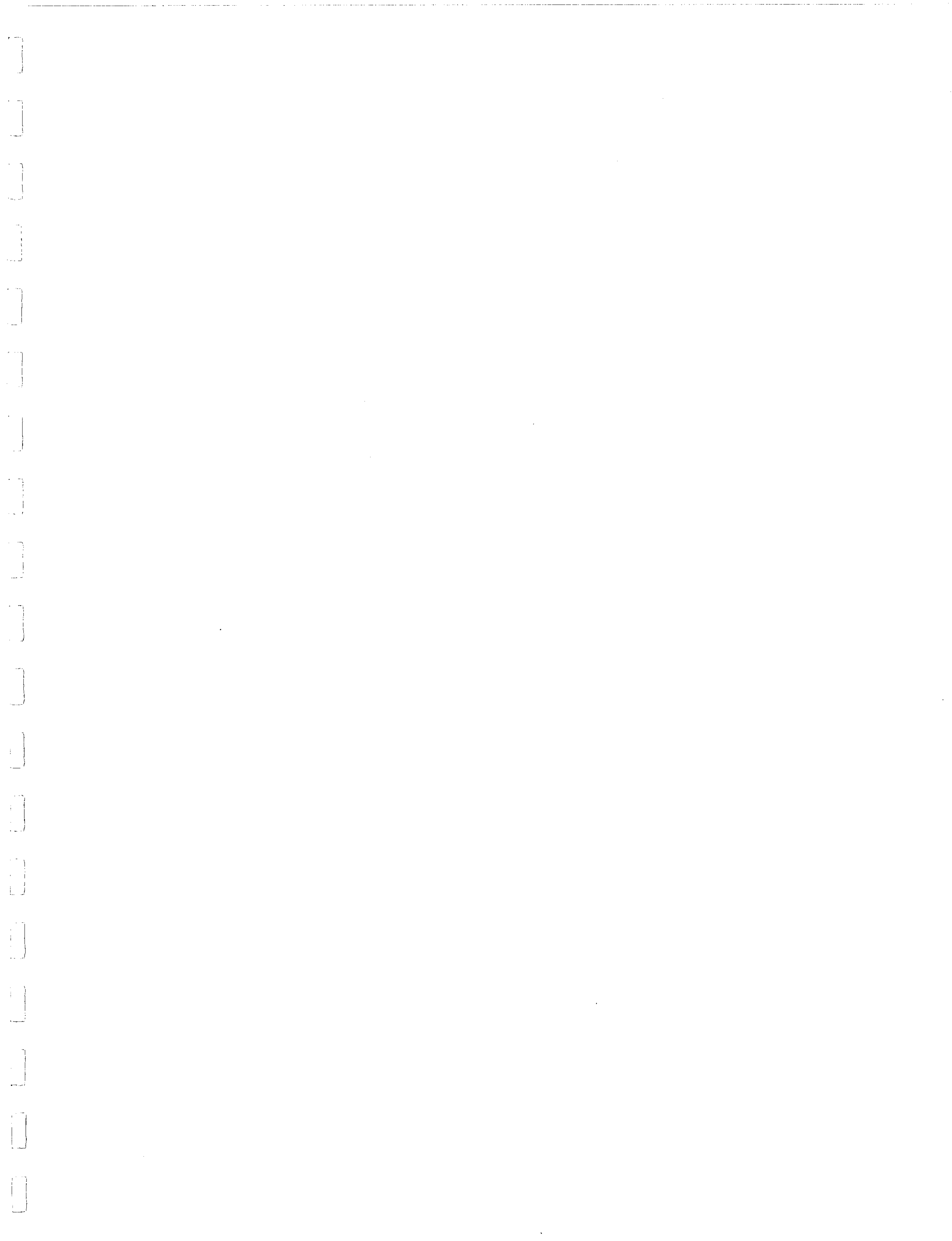


Blue = Existing Condit
Red = Needed Treatm



Geriatric Hygiene: *It's Not All Black and White*

By Eric Z. Shapira, MS, DDS, MAGD

The geriatric dentition varies from person to person, from decade to decade, and from one social segment of society to the next. There are people who are young chronologically but have geriatric dentitions! Therefore, it is extremely difficult to categorize in what age group or chronological strata we can place the geriatric dentition; however, for the sake of argument, let's say that age 50 and up connotes the "geriatric genre" (Table 1).

Approximately 20% of the population of the United States is edentulous.[1] There has been a distinct increase in decayed, missing, and filled teeth as a person ages. However, in the present millennium, new medical and dental techniques, new dental materials and technology, and new preventative drugs and products allow us to preserve our dentitions longer while decreasing disease processes that affect all of us, especially in later life.

Most geriatric dental patients are affected by ongoing periodontal disease, root caries, abfractions, and pulp calcifications. The desiccation of the pulp leads to "brittle" teeth with subsequent fracturing and possible accelerated tooth loss. Medically compromised geriatric patients have a higher degree of difficulty in maintaining a healthy dentition, even though they may keep most of their teeth for a longer period of time.

Approximately 20% of the population of the United States is edentulous. There has been a distinct increase in decayed, missing, and filled teeth as a person ages.

The most common physical problem that affects older Americans is arthritis.[2] (Table 2) This debilitating disease affects the joints and ultimately the range of motion, movement in general, and dexterity a patient may have. Someone with "gnarly" fingers cannot fully grasp a conventional toothbrush very easily, thereby limiting their ability and agility to keep their dentition and oral tissues clean (Figures 1 through 4). In the past, techniques to help physically compromised

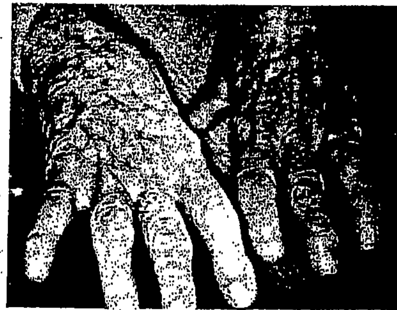


Figure 1. An 89-year-old woman with arthritis in the hands.

Figure 2. An 88-year-old woman with arthritis [in] the hands.

Figure 3. An 88-year-old woman with arthritis i[n] the hands holding a regular toothbrush.

Table 1. The Geriatric Genre

When does one become a senior?

- San Jose office of aging...50 and older
- Older Americans act (Federally mandated)....60 and older
- Retirement Housing Communities...50 and older
- Private Businesses...senior discounts...55 and older
- Social Security Administration does not define senior
- Social Security retirement benefits...62 and older
- Widows and widowers benefits...60 and older
- American Association of Retired Persons...50 years

Table 2. Percent of Middle-aged Adults and Seniors Having Common Conditio[ns]

Chronic Conditions	*Ages 45-64*
Arthritis	25%
Hypertension	24%
Hearing loss	14%
Heart conditions	12%
Visual impairment	6%
Diabetes	6%

Source: A profile of Older Americans 1995-American Association of Retired Persons

individuals hold a conventional toothbrush have been: (1) placing a small ball at the end of the brush for a fuller grip; (2) taping layers of tongue blades lengthwise on the handle to increase grip width; (3) utilizing clear orthodontic acrylic luted to the handle of the toothbrush for a better, more customized, molded grip; and (4) using a larger-handled brush, usually European made. With the advent of the electric toothbrush "digitally" compromised individuals have the ability to grasp a varied and wider array of toothbrush handles (Figures 5 through 7). This makes cleaning easier, less frustrating, and more efficient. Most of the electric brushes on the market now have timers. This feature helps keep the patients' efficiency level elevated during the cleaning process.

One study has shown that most older Americans brush for less than 2 minutes total time per day. Flossing, on the other hand, was almost nonexistent.

One study has shown that most older Americans brush for less than 2 minutes total time per day.[3] Flossing, on the other hand, was almost nonexistent. It must be stressed to the older patient that flossing is just as important as brushing, in order to continue to break plaque and debris from their interproximal tooth surfaces. New electric flossing devices, like the AutoFlosser and the Braun Electric Flosser, help those digitally compromised individuals achieve success with this task. Waterpiks and Aquaflossers, which are hooked up to the faucet, are helpful because of their flushing action. They remove gross food debris from around teeth, prosthetic ap-

Geriatric Hygiene
continued from page 55

pliances, and the under-surfaces of dentures, as well as metal overdenture bars and attachments.

Dentists should consider having on hand in the office a variety of electric toothbrushes to use as samples. This will assist the patient in choosing one that best fits his or her palm diameter, finger grip and extension, and the extent of their disease-limiting action on the function of their hands in general.

For those patients with arthritis of the temporomandibular joint areas, which can and does limit their range of motion, the dentist may consider the Oralgiene electric toothbrush (Oralgiene). It has a wide grip and a multifaceted head (Figure 8). I have found this brush to be extremely effective in helping my physically and mentally compromised patients clean their teeth and gums. The working mechanism of this brush consists of two rounded brush heads that face each other, and a dual-sided straight brush between them. As the two round heads rotate back and forth with a scrubbing motion, the flat-headed brushes move back and forth. The patient needs only to place this brush between the teeth and bite on it gently. Then they pull and push on the brush, back and forth, with a simple hand and arm movement. The patient need not open the mouth wider than a thumb width. Subsequently, the teeth are cleaned on all surfaces, accept the innermost interproximal contact areas. The use of this brush affords the patient at least 100% cleansing ability of approximately 80% of each tooth surface, assuming they spend enough time and energy in each sextant of their mouth.

Other cleaning adjuncts such as two-row brushes, rubber tip stimulators, interproximal brushes, and tongue scrapers also help the compromised and elderly patient with home care. These implements and their successful use depend solely on the patient's ability to hold, manipulate, and understand the purpose of

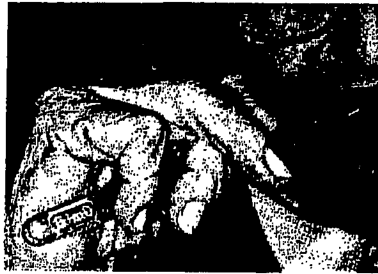
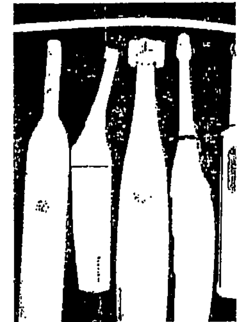


Figure 4. An 89-year-old woman with arthritis in the hands holding a regular toothbrush.

Figure 5. Array of electric toothbrushes (from L-R: Sonicare, Rotadent, Oralgiene, Sensonic, Oral-B).

Figure 6. An 89-year-old woman with ar holding an electric Sonicare toothbrush

Figure 7. An 88-year-old woman with arthritis holding an electric Sonicare toothbrush.



each in its function of cleaning the mouth.

EFFECTS OF MEDICATION

As we age, the more prone we are to an increased use of medication. In my practice, the average person over the age of 65 takes at least one to 10 pills daily. Some types of medication can change the integrity of salivary flow and saliva itself. The decrease in salivary flow decreases the cleansing action of the saliva in general, causing the plaque, combined with materia alba, to become stickier. The more plaque sticking to the teeth and oral tissues, the more prone an individual is to increased decay and inflammation of the gingiva. The more medically compromised the patient is, the less ability he/she has to fight this inflammation. Over time, this inflammation can cause bone loss and subsequent tooth loss.

Other medications, such as blood pressure drugs, anti-anxiety drugs, antihistamines, and decongestants not only decrease salivary flow but tend to proliferate the gingiva (Table 3). This makes it even more difficult for seniors and compromised individuals to keep their periodontal pockets below 3 mm for general health and optimal maintenance.

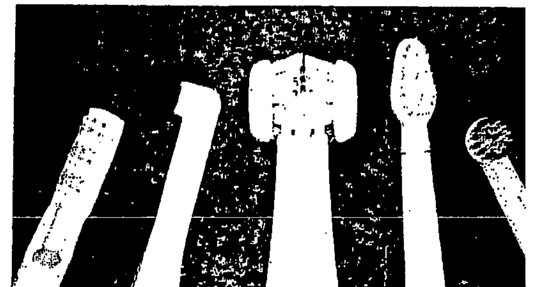
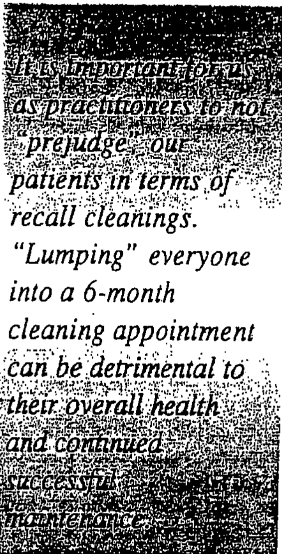


Figure 8. Close-up of Oralgiene electric brush head (middle brush, thir from left).

RECALL APPOINTMENTS

It is important for us as

practitioners to not "prejudge" our patients in terms of recall cleanings. "Lumping" everyone into a 6-month cleaning appointment can be detrimental to their overall health and continued successful maintenance. It does a disservice to the patient. Not stressing any recall visits to the older and compromised patient is akin to "elder abuse." Some seniors, who are medically compromised and take numerous medications, may have difficulty manipulating a toothbrush. These patients should be considered for recall cleanings on



a monthly basis. Fees can be adjusted accordingly so that once their disease state is eliminated or in a stable mode, maintenance techniques and prophylaxis will suffice. Most of my senior patients with dental rehabilitation, whether medically compromised or not, come in for routine recall on a 3-month basis (Table 4). Seniors who continue to use tobacco products should be given shorter recall dates as well. Shorter recall dates should be given to those individuals if they are also medically compromised and have had extensive dental work completed.

The dental hygiene regimen should also include medicaments such as chlorhexidine rinse, prescription fluorides, and Periostat (Collagenex). These adjuncts, especially Periostat, allow us to prevent (and maintain this prevention of) periodontal disease, not just treat it physically. If a person cannot tolerate alcohol-based products such as Peridex or Periogard, a product called Biotene rinse should be used. It is alcohol free and contains an enzyme that helps break down plaque and eliminate bacteria. Periostat is given 20 mg twice daily. It is a doxytetracycline derivative that does not affect normal flora, only the collagenase enzyme the bacteria produce, which breaks down collagen. Collagen is the major component of the supporting tissues of the periodontal ligament, the gingiva, bone, and in part, the cementum of the tooth. Periostat is indicated in adult periodontal disease where there are pockets above 4 mm and where there is bleeding. It can safely be given from 1 to 18 months. Treatment can be interrupted and restarted at any time, without any repercussions to the patient. Ultimately this drug will increase attachment levels around teeth, decrease bleeding, and decrease pockets. It has been successfully used with older patients in my practice since its inception. Side effects have been one case of nausea, one case of itching, and one case of sun sensitivity, in conjunction with its use in over 300 patients. It is of interest to note that fluoride gels and rinses, as well as fluoride prescription toothpastes, have significantly reduced plaque levels and protected root surfaces from root caries in the older dental population of my practice.[4]

Recall visits should be used to monitor the use of all products prescribed to our older patients, which effectively help reduce or eliminate periodontal disease. Because a person's health history tends to change so much, it is incumbent upon us as practitioners to continually update not only our medical histories, but our drug and prescribed medicine histories as well. We may be surprised to learn that our older patients may not take medications in the manner they have been prescribed, hence, compromising our treatment regimens for them and their own personal health.

CONCLUSION

Our older patients can best be served dentally by assessing their physical health status; their levels of periodontal disease; their ability to care for themselves; their habits; their desires to continue to maintain a healthy dentition; their ability to afford dental care; their ability to ambulate and continue to come to our offices for care; and our ability to monitor and continue treating them.

Many patients who are sequestered or secluded do not want to have regular dental or even medical care. Experience has shown that when these people find themselves moving to senior housing complexes or retirement homes, where there is an increase in social contact, they usually want to increase their visits to the dentist and physician. Their desires for doing so are variable, but for the most part it is because of an increase in social contact with others of the same ilk. This social presence causes a chain reaction for most, increasing a person's desire for cleaner, better-looking teeth, more cosmetic procedures, and an overall desire to maintain a healthier dentition and body.

It is important for us as practitioners to take the time necessary and make the effort to assess our patients' overall conditions and needs, prior to providing a treatment plan and setting up a recall schedule for them that will meet their needs and wants. There is also a strong need for us to teach our older patients about dentistry and the many disease entities that may cause them harm, as they may not necessarily be aware or respond to dental treatment the way our

younger patients will today. Maintaining good oral health should be emphasized to our older patients, with respect to the recent correlations made between poor oral health and life-threatening vascular diseases, as well as other medical catastrophes.

Statistics show that people are living longer and keeping their teeth longer. They also show that systemic diseases that influence the overall health of our patients, and complex drug histories of our patients, will tend to complicate the extent and possible quality of the dental treatment with which our older patients may be faced. Although the total number of edentulous persons will not decline, their percentage within the population will. Those persons who remain edentulous will be older, probably have lower educational and socioeconomic backgrounds, will have been edentulous longer, and will be more difficult to treat. Those older patients maintaining their teeth longer will be more savvy to the newer techniques available to them in dentistry, be better educated than their predecessors, and have more available income to spend on their ultimate treatment needs and wants.

The great Ragtime musician, Eubie Blake, once stated at the age of 100 years, "If I had known I was going to live this long, I would have taken better care of myself!" The fastest growing segment of our population is people within the 85- to 100-year- old age bracket.[5] More of these people are maintaining their dentitions, have the discretionary money to afford care and dental maintenance, and have the overall desire for cosmetic and functional dental procedures, once educated about them.

So don't "jump the gun." Geriatric hygiene is not all black and white! ✦

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Table 3. Commonly Used Medications With "Dry Mouth" as a Potential Side Effect

Therapeutic Category	Trade Name	Generic Name
High Potential		
Tricyclic Antidepressants	Elavil®	Amitriptyline H(
	Sinequan®	Doxepin HCl
Antihistamines	Benadryl®	Diphenhydramin
	Seldane®	Terfenadine
Benzodiazepine Sedatives	Xanax®	Alprazolam
	Dalmane®	Flurazepam
Phenothiazine Antipsychotics	Mellaril®	Thioridazine
	Stelazine®	Trifluoperazine
Antiparkinson Medications	Sinemet®	Carbidopa-levado
Lower Potential		
Antidepressants	Prozac®	Fluoxetine
Diuretics	Dyazide®	Triamterine + HC
Antihypertensives	Aldomet®	Methyldopa
	Tenormin®	Atenolol
	Capoten®	Captopril
	Vasotec®	Enalapril
NSAIDs	Motrin®, Advil®	Ibuprofen
	Clinoril®	Sulindac

Table 4. Recall Appointments for Geriatric Patients With Various Conditions

Age And Condition	Monthly	3 Months	4 Months	6 Months
50-60 YRS (WNH)				X
50-60 YRS (MC.M)			X	
50-60 YRS (MC.M.DR)		X		
60-70 YRS (WNH.DR)			X	
60-70 YRS (MC.DR.M)		X	X	
60-70 YRS (MC.M.DR.S)	X	X		
70-80 YRS (WNH.DR)		X		
70-80 YRS (MC.M.DR)		X		
70-80 YRS (MC.M.S.DR)	X	X		
80-90 YRS (WNH.DR)	X			
80-90 YRS (MC.M.DR)	X	X		
80-90 YRS (MC.M.S.DR)	X			
90 PLUS (WNH.DR)		X		
90 PLUS (MC.M.DR)	X			
90 PLUS (ALL CONDITIONS)	X			

WNH = WITHIN NORMAL HEALTH; MC = MEDICALLY COMPROMISED; M = MEDICATION; S = SMOKER; DR = DENTAL REHABILITATION.