

Pancreatic Disorders

- ▶ Type I Diabetics
 - ▶ Absolute insulin deficiency
 - ▶ Hyperglycemia
 - ▶ Glycosuria
 - ▶ Polydipsia
 - ▶ Polyphagia
 - ▶ Diabetic ketoacidosis
- ▶ Type II Diabetics
 - ▶ Impaired secretion or action of insulin
 - ▶ Insulin resistance

- ▶ PCOS
 - ▶ Insulin resistance
 - ▶ Weight gain
- ▶ Gestational Diabetes
 - ▶ Related to hormones, genetics and obesity
 - ▶ Larger infants with premature births
 - ▶ Insulin resistance
- ▶ Others
 - ▶ Cystic Fibrosis related diabetes
 - ▶ Post-transplantation diabetes mellitus
 - ▶ Monogenic diabetes syndromes

Oral Implications of Diabetes Mellitus

Increased gingival inflammation

Periodontal disease – either gingivitis or periodontitis

Caries including root caries

Xerostomia

Oral candidiasis

Burning mouth/tongue

Diminished taste

Hairy/Black tongue

Acanthosis nigricans

Diabetes and Periodontal Disease



Related to the inflammatory process and pathogenesis



Suggested link of diabetics being at 2x-4x more risk for development



Higher A1C related to lessened control of periodontal disease



Treatment with NSPT (Non-surgical periodontal therapy) decreased A1C in patients after 6 months

Additive effect if combining with lifestyle changes



Dental Caries and Endodontic Infections

Diabetic teens are at 2x-3x higher risk of caries development

Diabetic adults have a higher risk of root caries

Teeth periodontally involved have a reduced rate of healing from endodontic infections

Similar rate of implant failure between healthy and diabetic patients

Diabetic Emergencies

Hyperinsulinemia

- Hypoglycemia
 - Mental confusion, sweating, irritability
 - Palpitations, shakiness, pallor, headache,
 - Seizure, Diabetic coma

Hyperglycemia

- Polyuria, polydipsia, polyphagia
- Weight loss, blurred vision, increased infections
- Impaired growth, ketoacidosis

Management of the Diabetic Patient

Asking about most recent A1C

Having a working glucometer
available

Educate on medicines and
diet

Discuss social habits

Appointment Planning for the Diabetic Patient

- ▶ Time
 - ▶ Treating after most recent meal
 - ▶ Ask about medication times
 - ▶ Most patients prefer morning after breakfast
- ▶ Precautions/Emergencies
 - ▶ Be prompt and on time
 - ▶ Do not interfere with mealtimes or snacks
 - ▶ Avoid long appointments
 - ▶ Reduce stress during appointments
 - ▶ Treat infections promptly
 - ▶ Monitor for hypoglycemia
 - ▶ Prepare for emergencies

Appointment Planning for the Diabetic Patient

- ▶ Emergency Management
 - ▶ Be aware of changes in patients during appointment times
 - ▶ Treat for hypoglycemia if in doubt

Patient History for Diabetic Patients

Medical History

- Questions regarding signs and symptoms of diabetes
- Ask about most recent blood sugar or A1C

Suggestion for Primary Care

- If blood sugar is extremely high
- If blood glucose not well controlled
- If signs of diabetes during medical history questionnaire

Dental Hygiene Assessment and Treatment of Diabetic Patients

Extraoral/Intraoral Examination

- Acanthosis nigricans

Dental Biofilm Control

- Meticulous self-care needed
- Use disclosing tablets

Tobacco cessation counseling

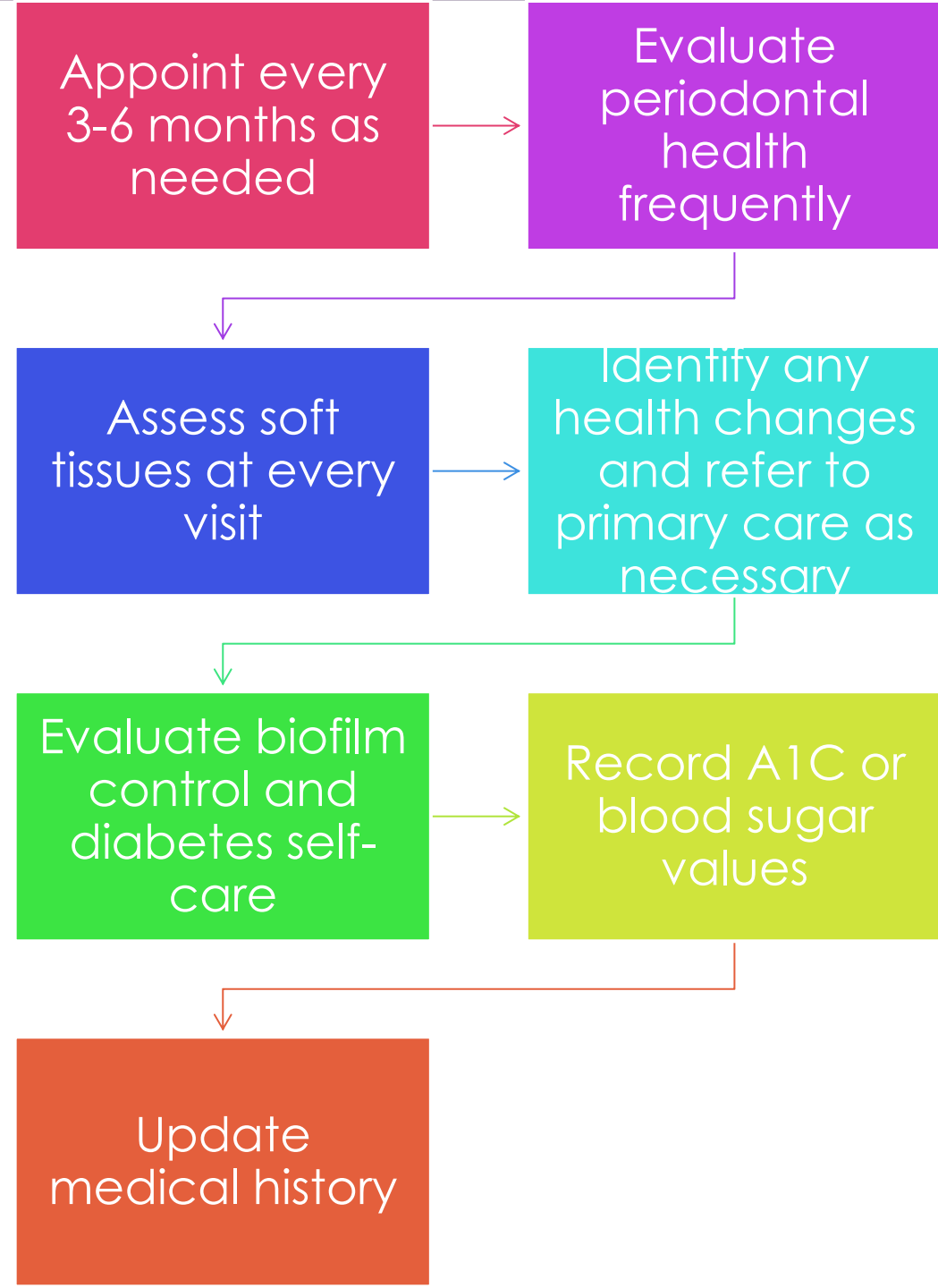
Instrumentation

- Short appointments for stress management
- Allow for healing between appointments

Fluoride treatments



Continuing Care for Diabetic Patients



Puberty

- ▶ Adolescence is ages 11-21
 - ▶ Early from 11-13
 - ▶ Middle from 14-17
 - ▶ Late from 18-21
- ▶ Rapid changes in body size, shape and composition
- ▶ Changes to gonads and hormone secretions
- ▶ Males produce testosterone from testes
- ▶ Females produce estrogen, progesterone and inhibin from ovaries
 - ▶ Menstruation commences

Hormonal Influences

Pituitary hormones
control ovaries and
testes

Sex organ and
secondary sex
organs develop

Strong physical,
mental and
emotional influences

Oral Health Risks for Puberty

Gingival inflammation

Dietary analysis

Hyperplastic gingiva

Acute intraoral infections

Periodontal infections



Women's Health and Reproduction Oral Health Risks and Patient Management

Oral Health Risks

- Gingival bleeding
- Exaggerated response to local irritants

Patient Management

- Menstruation is normal
- Question about birth control and cycles
- Keep on regular recall visits

Hormonal Contraceptives

- ▶ Oral contraceptives
- ▶ Implantable rod
- ▶ Injections
- ▶ Patch
- ▶ Ring
- ▶ Sponge
- ▶ Estrogen and Progesterone prevent pregnancy

Oral Health Risk for Patients Taking Birth Control

- ▶ Dental biofilm response
- ▶ Record updates to birth control doses and types

Patients During Menopause

- ▶ Cessation of menstruation between age 47-55
- ▶ Usually, cessation of period for 12 consecutive months
- ▶ Signals end of fertility
- ▶ Lowered production of estrogen and progesterone

Menopause Symptoms

- ▶ Vasomotor
 - ▶ Hot flashes, heart palpitations and chills
 - ▶ Night sweats and problems sleeping
- ▶ Mucosa
 - ▶ Decreased estrogen
 - ▶ Dryness, irritation and thinning of tissues
 - ▶ Vaginal infections
- ▶ Emotional disturbances
 - ▶ Mood swings, depression, anxiety, irritability, concentration and memory problems
 - ▶ Decreased libido
 - ▶ Weight gain

Postmenopausal Effects

- ▶ Atrophy of reproductive organs
- ▶ Osteopenia and osteoporosis
- ▶ Skin and mucous membranes fragile and easily injured
- ▶ Predisposition to atherosclerosis, diabetes and hypothyroidism

Oral Health Risks Associated with Menopause

- ▶ Burning mouth syndrome
- ▶ Dental biofilm response
- ▶ Hormonal oral tissue response
- ▶ Menopausal gingivostomatitis
- ▶ Altered salivary flow
- ▶ Thin epithelium and decreased keratinization
- ▶ Xerostomia
- ▶ Altered taste and inadequate diet
- ▶ Alveolar bone loss



Patient Management of Menopausal Patients

- ▶ Education about endocrine conditions and oral manifestations
- ▶ Emphasize oral self care
- ▶ Medication considerations
- ▶ Keeping regular recall appointments
- ▶ Stress reduction protocols
- ▶ Seating patient promptly and being efficient during appointment
- ▶ Talk about saliva substitutes
- ▶ Discuss dietary consideration
- ▶ Fluoride therapies

References

- ▶ Boyd, L. D. & Mallonee, L. F. (2023). Wilkins' clinical practice of the dental hygienist. Burlington, MA: Jones and Bartlett Learning. 14th edition