OT and Diabetes: Understanding our Role in Chronic Care Management

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http://ot.usc.edu/patient-care/faculty-practice/diabetes

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Learning Objectives

• Describe the clinical presentation, management, and complications of diabetes.

• Articulate OT’s unique contribution in improving patients’ diabetes self-management and diabetes-related health and quality of life.

• Understand billing and reimbursement mechanisms supporting OT services for patients with diabetes.

• Identify implications of healthcare reform and the changing healthcare climate on OT’s role in primary care and chronic condition management.
Who are you?

- What setting do you working in?
  - Pediatrics
  - Inpatient acute care
  - Inpatient rehab
  - Outpatient rehab
  - Mental health
  - Home health
  - Other?

- How often do you see patients with diabetes?
  - As comorbidity
  - As primary diagnosis for OT referral
  - Prevention (obesity/prediabetes)

- How would you describe your comfort level addressing diabetes with your patients?

Today’s Session

- Case Study Introductions

- What is diabetes? How does it impact occupation?
  - Diabetes 101 – Beth
  - Seven Self-Care Behaviors – Chantelle
  - Diabetes Self-Management Education (DSME) - Shanpin

- Case studies: Intervention approaches for diabetes
  - Small group discussions
  - Review as large group

- Reimbursement, advocacy, and healthcare reform - Camille
Case Studies

• Outpatient
  o “Ariana” – type 1 diabetes
  o “Rosalie” – type 2 diabetes
• Primary care: family medicine clinic
  o “Denise” – prediabetes
• Inpatient rehabilitation
  o “Lydia” – type 2 diabetes s/p stroke, husband “Tom” also has diabetes

Diabetes Case Study: “Ariana”

• **Age:** 21 years old
• **Gender:** female
• **Setting:** County hospital outpatient diabetes clinic
• **Diagnosis:** Type 1 diabetes
• **Reason for Referral:**
  - Chronic poor glucose control (A1C = 14%)
  - Not performing self-care regimen as prescribed
• **Primary Occupations:**
  - Providing childcare for brother's three children
  - Going out with friends (movies, shopping, "clubbing")
Diabetes Case Study: “Rosalie”

- **Age:** 42 years old
- **Gender:** Female
- **Setting:** Outpatient private practice
- **Diagnosis:** Type 2 Diabetes
- **Reason for Referral:**
  - Required by insurance company to attend behavior modification program prior to gastric bypass surgery
- **Primary Occupations:**
  - On disability from Masters program at prestigious university
  - Engaging in sedentary activities due to decreased activity tolerance
  - Home management, self care, paying bills

Diabetes Case Study: “Denise”

- **Age:** 28 years old
- **Gender:** female
- **Setting:** family medicine clinic
- **Diagnosis:** prediabetes
- **Reason for Referral:**
  - weight management
  - diabetes prevention
- **Primary Occupations:**
  - Mother to three young children
  - Wife
  - Volunteer at children’s school and church
Diabetes Case Study: “Lydia” and “Tom”

- **Age:** 58 (Lydia), 61 (Tom)
- **Gender:** female & male (husband and wife)
- **Setting:** inpatient rehabilitation hospital
- **Diagnosis:** type 2 diabetes, stroke with L hemiparesis (Lydia); type 2 diabetes (Tom)
- **Reason for Referral:**
  - Diabetes self-management
  - Patient/family education
- **Primary Occupations:**
  - Lydia: reading, homemaking, watching TV, visiting family, worked as daycare provider
  - Tom: watching sports, visiting family, works in hardware store

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**Part I: What is diabetes?**

- **Clinical presentation and treatment**
  - Types of diabetes
  - Natural course and progression (including complications)
  - Medical/pharmacological therapies
  - Lifestyle treatment approaches
Fast Facts on Diabetes

- 25.8 million people in the U.S. have diabetes
- Leading cause of:
  - Kidney failure
  - Nontraumatic LE amputations
  - New cases of blindness
- 7th leading cause of death
  - NOT including deaths due to heart disease and stroke
- Compared to non-Hispanic whites, diabetes risk is:
  - 77% higher for non-Hispanic blacks
  - 66% higher for Hispanics
  - 18% higher for Asian Americans

OT and Diabetes

- OT practitioners address physical, cognitive, psychosocial, and sensory aspects of everyday life activities, including integration of diabetes self-care into clients’ existing habits and routines
  - Are clients/patients able to carry out diabetes self-care occupations?
  - How does diabetes regimen impact clients/patients’ participation in other valued activities?
OT and Diabetes

- For 25.8 million people with diabetes in the US:
  - 4,000 endocrinologists (one per 6,450 patients)
  - 15,000 certified diabetes educators (one per 1,720 patients)
  - OT is one of 13 disciplines eligible for CDE (but regardless of certification, diabetes is in our scope of practice!)

Become a CDE

Requirements:

- Licensed and registered OT
- Practiced for approximately 2 years
- 1,000 hours of diabetes education within 4 years of examination
  - Minimum of 40% (or 400 hours) of DSME accrued within the year prior to examination
- Completed 15 hours of continuing education applicable to diabetes within the past 2 years
- Pass examination to become CDE
- ***New CDE Mentor Program to increase contact hours
## Key players in diabetes:

<table>
<thead>
<tr>
<th><strong>Glucose</strong></th>
<th>The body’s main source of energy (made in the liver and comes from the foods we eat)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Insulin</strong></td>
<td>Hormone made by the pancreas that transports glucose from the blood into the body’s cells to be used for energy</td>
</tr>
<tr>
<td><strong>Pancreas</strong></td>
<td>Organ responsible for insulin production</td>
</tr>
<tr>
<td><strong>Beta cells</strong></td>
<td>Located on the pancreas, responsible for insulin production</td>
</tr>
</tbody>
</table>

## What is diabetes?

- Disorder of *glucose metabolism*
- Chronic disease with progressive course
- Related to *insulin deficiency* and/or *insulin resistance*:
  - **Insulin deficiency**: insulin is no longer produced by the pancreas
  - **Insulin resistance**: insulin is produced but no longer able to perform its function of putting glucose into the cells
What is diabetes?

Classification of diabetes

- **Type 1:** Absolute insulin deficiency
  - Step 1: Beta cells burn out
  - Step 2: Deficiency of insulin
- **Type 2:** Relative insulin deficiency which can't overcome insulin resistance
  - Step 1: Insulin resistance
  - Step 2: Extra production of insulin
  - Step 3: Beta cells burn out
  - Step 4: Deficiency of insulin
- **Gestational Diabetes (GDM):** Relative deficiency of insulin during pregnancy, when insulin resistance is higher
- **Other forms** (MODY; drug/chemical-induced; infection-induced; genetic defects or syndromes)
What’s the difference?

TYPE 1 DIABETES (T1DM)
• Etiology: autoimmune (most common), idiopathic
• Prevalence: 0.4% (and rising)
• Onset: Rapid, acute
• Treatment: Insulin therapy
  o Fixed regimen
  o Flexible regimen (multiple daily injections)
  o Insulin pump

TYPE 2 DIABETES (T2DM)
• Etiology: genetic, behavioral, environmental risk factors
• Prevalence: 8.6% (and rising)
• Onset: Gradual, “silent”
• Treatment: Combination of:
  o Lifestyle change (weight loss, physical activity)
  o Oral medication
  o Insulin therapy (see T1DM)


Testing for Diabetes

• Fasting plasma glucose (FPG)
  • Amount of glucose in the blood after 12-hour (overnight) fast
  • Abnormal = Impaired Fasting Glucose (IFG)
• Oral glucose tolerance test (OGTT)
  • Amount of glucose in the blood after consuming high-glucose beverage
  • Abnormal = Impaired Glucose Tolerance (IGT)
• A1C (hemoglobin A1C / HbA1c / glycated hemoglobin)
  • Average blood glucose levels over ~3 months
Prediabetes

- Increased risk of diabetes
- **Any** of the following:
  - Impaired fasting glucose (IFG)
  - Impaired glucose tolerance (IGT)
  - Elevated hemoglobin A1C

Metabolic Syndrome

- Increased risk of diabetes
- Increased risk of cardiovascular disease
- **At least 3** of the following:
  - Impaired fasting glucose (IFG)
  - Triglycerides ≥ 150 mg/dL
  - Blood pressure ≥ 130/85
  - **Abdominal obesity** (>40” waist in men, >35” waist in women)
  - **Low HDL cholesterol** (<40 mg/dL in men, <50 mg/dL in women)

Progression of Type 2 Diabetes

http://www.diabetes.org/diabetes-basics/prevention/pre-diabetes/how-to-tell-if-you-have.html
Progression of Type 2 Diabetes

Diagnosis: Cutoff based on risk of long-term complications

ABCs: Cornerstones of Diabetes Care

A: A1C (average blood glucose)

B: Blood pressure

C: Cholesterol

D: Depression

## Know your numbers!

<table>
<thead>
<tr>
<th>A1C</th>
<th>Blood Pressure</th>
<th>Cholesterol</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Target for healthy adults:</strong> &lt;7%</td>
<td><strong>&lt;130/80 mm/Hg</strong></td>
<td><strong>LDL cholesterol:</strong> &lt;100 mg/dL</td>
</tr>
<tr>
<td>Higher for</td>
<td><strong>Research on benefits of lower blood pressure targets has shown mixed results</strong></td>
<td>• <strong>&lt;70 mg/dL when CVD present</strong></td>
</tr>
<tr>
<td>• Children/teens</td>
<td></td>
<td><strong>HDL cholesterol:</strong></td>
</tr>
<tr>
<td>• Recurrent</td>
<td></td>
<td>• &gt;40 in men</td>
</tr>
<tr>
<td>hypoglycemia</td>
<td></td>
<td>• &gt;50 in women</td>
</tr>
<tr>
<td>• Limited life</td>
<td></td>
<td><strong>Triglycerides:</strong></td>
</tr>
<tr>
<td>expectancy</td>
<td></td>
<td>• &lt;150 mg/dL</td>
</tr>
<tr>
<td>• Advanced</td>
<td></td>
<td></td>
</tr>
<tr>
<td>complications/</td>
<td></td>
<td></td>
</tr>
<tr>
<td>comorbidities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Lower for</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Pregnant women</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


## Treatment: T1DM

- Insulin therapy
  - Fixed regimen
  - Flexible regimen (vary dose by food intake and activity level)
    - Multiple daily injections
    - Insulin pump
- Blood glucose monitoring (4+ times daily)
- Screening for and managing complications
Treatment: T2DM

- Combination/progression of:
  - Lifestyle modification
    - More effective at prevention
    - Can sometimes control diabetes after dx for a period of time
  - Oral medication
    - Metformin is first-line medication
    - Others added in different combinations
  - Insulin therapy
    - Typically begins with long-acting insulin 1-2x daily
    - Progression to short-acting insulin with meals

Acute complications

<table>
<thead>
<tr>
<th></th>
<th>Hypoglycemia (low blood sugar)</th>
<th>Diabetic ketoacidosis (DKA)</th>
<th>Hyperglycemic hyperosmolar syndrome (HHS)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sx</strong></td>
<td>Headache, confusion, sweating, anxiety, loss of coordination, hunger, lethargy</td>
<td>Excessive thirst, rapid breathing, abdominal pain, fruity breath, vomiting, lethargy</td>
<td>Excessive thirst, weakness, lethargy, nausea, headache, confusion</td>
</tr>
<tr>
<td><strong>Tx</strong></td>
<td>• 15/15 Rule: Give 15 grams of glucose, repeat after 15 minutes</td>
<td>Treat as medical emergency</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• 4 t. sugar, 4 hard candies, 4 glucose tablets, 6 oz. juice or soda</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• If can’t take glucose, give glucagon injection</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• If no improvement, treat as medical emergency</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Notes</strong></td>
<td>More common in patients treated with insulin or sulfonylureas.</td>
<td>More common in T1DM. Rare in T2DM, triggered by illness.</td>
<td>More common in T2DM, particularly older adults.</td>
</tr>
</tbody>
</table>
Long-term complications

Microvascular
- Retinopathy
- Neuropathy
  - Peripheral
  - Autonomic
- Nephropathy

Macrovascular
- Peripheral arterial disease
- Cardiovascular disease (MI, CHF)
- Cerebrovascular disease (stroke, TIA)

Other
- Foot ulcers (2” to peripheral arterial disease, ↓ sensation, ↓ wound healing)
- Infections (e.g. UTI, skin infections)
- Slowed healing

Leading cause of excess mortality in people with diabetes

Insulin & Insulin Analogues

<table>
<thead>
<tr>
<th>Types of insulin</th>
<th>Names</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Rapid-acting (before meals)</strong></td>
<td>Humalog (lispro)</td>
</tr>
<tr>
<td>• Onset &lt;15 min</td>
<td>Novolog (aspart)</td>
</tr>
<tr>
<td></td>
<td>Apidra (glulisine)</td>
</tr>
<tr>
<td><strong>Short-acting (before meals)</strong></td>
<td>Humulin R (regular)</td>
</tr>
<tr>
<td>• Onset 30-60 min</td>
<td>Novolin R (regular)</td>
</tr>
<tr>
<td><strong>Intermediate-acting (2x daily)</strong></td>
<td>Humulin N (NPH)</td>
</tr>
<tr>
<td>• Duration 10-16 hours</td>
<td>Novolin N (NPH)</td>
</tr>
<tr>
<td><strong>Long-acting (once daily)</strong></td>
<td>Lantus (glargine)</td>
</tr>
<tr>
<td>• Duration 20-24 hours</td>
<td>Levemir (detemir)</td>
</tr>
<tr>
<td><strong>Basal + bolus insulin</strong></td>
<td>70/30 NPH/Regular</td>
</tr>
<tr>
<td>• Typically twice daily</td>
<td>70/30 rapid-acting</td>
</tr>
</tbody>
</table>

### Common Diabetes Medications

<table>
<thead>
<tr>
<th>Category</th>
<th>Function</th>
<th>Trade Names</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biguanides (Metformin)</td>
<td>↓ liver glucose output (&quot;gas cap for the liver&quot;)</td>
<td>Glucophage®, Glucophage XR®</td>
<td>May help with weight loss</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>May lower triglycerides</td>
</tr>
<tr>
<td>Sulfonylureas</td>
<td>↑ insulin release (&quot;cheerleader for the pancreas&quot;)</td>
<td>DiaBeta®, Glynase, Micronase®, Prestabs®, Glucotrol®</td>
<td>Inexpensive</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Risk of hypoglycemia</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Can cause weight gain</td>
</tr>
<tr>
<td>Glinides</td>
<td></td>
<td>Prandin®, Starlix®</td>
<td>Short-acting</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Less weight gain than sulfas</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Doesn’t cause hypoglycemia</td>
</tr>
<tr>
<td>Thiazolidinediones (TZDs,</td>
<td>↑ insulin sensitivity</td>
<td>Actos®, (Avandia®: restricted due to adverse CVD</td>
<td>Can cause weight gain</td>
</tr>
<tr>
<td>Glitazones)</td>
<td></td>
<td>effects)</td>
<td>Can cause/worsen CHF</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Warning re: bladder cancer</td>
</tr>
<tr>
<td>Alpha-glucosidase</td>
<td>Delay carb absorption</td>
<td>Precose®, Glyset®</td>
<td>Can cause flatulence, diarrhea</td>
</tr>
<tr>
<td>inhibitors</td>
<td></td>
<td></td>
<td>Weight neutral</td>
</tr>
<tr>
<td>GLP-1 agonists</td>
<td>↑ incretin function (↑ satiety, ↓ glucagon secretion, delay gastric emptying)</td>
<td>Byetta®, Victoza®, Bydureon®</td>
<td>Taken through injection Bydureon once weekly</td>
</tr>
<tr>
<td>DPP-4 inhibitors</td>
<td></td>
<td>Januvia®, Onglyza®, Tradjenta®</td>
<td>Risk of hypoglycemia when taken with insulin or sulfas</td>
</tr>
</tbody>
</table>

### Lifestyle Change: AADE 7 Self-Care Behaviors

1. Healthy eating
2. Being active
3. Healthy coping
4. Problem solving
5. Risk reduction
6. Monitoring
7. Taking medication
Healthy Eating

• **Goals of intervention:**
  - Attain/maintain optimal ABC levels
  - Prevent/manage diabetes complications
  - Address individual nutrition needs
  - Address barriers to healthy eating
  - Maintain the pleasure of eating!

Healthy Eating

• **Role of OT:**
  - Creating sustainable routines around meals
  - Safety – adaptations in cooking
  - Planning and meal preparation
  - Grocery shopping
  - Meaning of food and cooking
  - Social eating
  - Alternative “healthy pleasures”
  - Portion control
Being Active

Benefits of Physical Activity:

- Improve insulin resistance (increase insulin sensitivity)
- Decrease LDL (bad) cholesterol
- Increase HDL (good) cholesterol
- Decrease triglycerides
- Decrease blood pressure
- Decrease risk for stroke, heart attack and diabetes complications


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Set SMART goals:
- Specific
- Measurable
- Attainable
- Realistic
- Time Sensitive

Physical activity recommendations:
- Resistance exercise 3 days per week
  AND EITHER
  - ≥ 150 minutes/week of moderate intensity aerobic activity
  OR
  - ≥ 75 minutes of high intensity aerobic activity

Being Active

Take precautions with complications:

• Risk of hypoglycemia
  • If blood sugar <150, have snack before exercise

• Hyperglycemia
  • Test for ketones when blood sugar >240; no strenuous activity if present

• Retinopathy
  • Heavy weight lifting and high impact activity contraindicated

• LE sensory impairment
  • Ensure good fitting footwear; inspect feet after exercise

• Peripheral vascular disease

• Risk of CAD

• Autonomic neuropathy


Healthy coping

Diabetes increases risk for:

• Stress
• Anxiety
• Depression
• Eating Disorders

Types of support:

• Emotional
• Informational
• Instrumental
• Affirmational
Healthy coping

Unhealthy Coping Mechanisms:
- Distraction
- Denial
- Substance abuse
- Behavioral disengagement
- Self blame

Healthy Coping Mechanisms:
- Humor
- Active coping
- Support
- Planning
- Acceptance
- Religion

Monitoring

New occupations...
- Determine how frequently the patient needs to self monitor blood glucose (SMBG)
  - Incorporate into routines
  - Keeping a log
  - Identifying patterns
- Blood pressure
- Foot inspections
- Weight
- Activity level

Brief Cope, retrieved on October 7, 2011 from:
http://www.psy.miami.edu/faculty/ccarver/sclBrC
OPE.html

Adaptive Equipment

• Adaptive Equipment

  • Visual
    • “Talking” blood glucose monitor
    • Nonvisual foot inspection techniques
    • Insulin pens and other tools for drawing insulin
    • Large print handouts

  • Audio
    • Sign language interpreters
    • Insulin pumps that alarm by vibration

  • Dexterity
    • Meters designed to be used without handling strips
    • Insulin pens and other tools for drawing insulin


Taking medications

• The patient should have an idea of how medication works in the body

• Know when, how and how much to take

• OTs can help their patients:
  • organize medication
  • track medications
  • embed into routines
  • identify environmental supports or barriers

Taking medications

- Oral medications
  - Single or combination therapy

- Non-insulin injectables

- Insulin
  - Basal, premixed, or short-acting
  - Delivery via syringe, pen, or pump

- Medications to meet ABC goals
  - Aspirin, anti-hypertensives, cholesterol lowering agents


Reducing risk

- Screen for complications
  - Each visit: BP, foot exam, depression
  - Every 3-6 months: A1C
  - Annually: lipids, albumin (kidney fx), eye exam

- Minimize cardiovascular risk
  - Achieving ABC targets
  - Smoking cessation
  - Stress reduction
  - Diet and physical activity

- Manage hypoglycemia and sick days

- Keep track
  - Appointments
  - Medical records & test results
Problem solving

- Assess readiness to change
- Assess literacy and cognitive level
- Problem solving:
  - Direct Instruction--clear problem, clear solution
  - OT / Patient collaboration
  - Patient as the problem solver
- Identify barriers and supports
- Incorporate into routines to increase consistency and sustainability
- Safety first!


Problem solving

- Stages of Change
  - Precontemplation
  - Contemplation
  - Preparation
  - Action
  - Maintenance
  - Relapse/recycle

- Motivational interviewing
  - Avoid arguing – roll with resistance
  - Support autonomy (invite participation, offer choice, gain consent)
  - Develop discrepancies – benefits of change, drawbacks of staying the same
Occupational Therapy Intervention

Diabetes impacts the individual’s personal, environmental, social, spiritual and physical well-being. In order to promote successful prevention and management, adaptations to daily routines and lifestyle may include:

- Developing healthy eating routines
- Creating a physical activity routine
- Monitoring blood sugar
- Monitoring blood pressure
- Medication management

- Low vision adaptations
- Adaptive equipment
- Environmental assessments and adaptations
- Foot examinations
- Scheduling appointments
- Healthcare management

Occupational Therapy for Special Populations with Diabetes

Shanpin Fanchiang, Ph.D., OTR/L
Rancho Los Amigos National Rehabilitation Center
Special Populations

• Stroke
• Spinal cord injury (SCI)
• Neurological diseases (muscular dystrophy, Parkinsonism...etc.)
• Amputation with Diabetes Mellitus

Stroke Risk in Diabetes

Kaplan–Meier curves: Stroke in patients with type 2 diabetes mellitus, with and without previous cardiovascular disease (CVD), by sex.


 SCI & Diabetes Prevalence
Veterans with SCI&D, general veterans, & general population

Long Term SCI & Diabetes

- 20% of SCI survivors have type 2 diabetes
- SCI alters the body’s metabolism: muscle mass is lost and fat tissue increases.
- Inactivity impairs glucose tolerance; causes abnormal insulin levels.
- The older the patient, the greater the chance of developing diabetes since age-related changes are accelerated in SCI population.
Neurological Disease & Diabetes

- Diabetes ➞ both neuropathy & inflammatory myopathy.  
  [http://www.patient.co.uk/doctor/Myopathies.htm](http://www.patient.co.uk/doctor/Myopathies.htm)

- Myotonic Dystrophy, a form of muscular dystrophy, is complicated by diabetes. Abnormal plasma proinsulin level ➞ high risk of diabetes.  

- Diabetes: associated with parkinsonian-like signs, i.e. rigidity, gate disturbance, and bradykinesia.  
  *Neurology*. September 28, 2004 vol. 63 no. 6 996-1001

- PD patients, 50-80%, with abnormal glucose tolerance; can lead to neuro-protective intervention for PD & better Tx for Diabetes.  

Foot Amputation in Diabetes

- Incidence of diabetic foot ulcers: 5.3-7.4%

- 9%-20% of people with diabetes have a new amputation within 12 months after an amputation

- 5 yrs following 1st: 28%-51% had 2nd amputation

- Perioperative mortality (death <30 days) among diabetic amputees averaged 5.8%

- **Five-year mortality** following amputation was 39%-68%

Foot Check

Looking for:

- Redness
- Blisters
- Corns
- Calluses
- Cuts
- Is the stomach in the way?
- Decreased vision for checking?
Best Therapy: Prevention!

The Goal for Occupational Therapy Intervention

To learn and use “Diabetes Self-Management Education” (DSME)

OT ➔ lifelong learners, annual updates

Diabetes Care January 2012 vol. 35 no. Supplement 1 S101-S108
http://care.diabetesjournals.org/content/35/Supplement_1/S101.full.pdf+html
DSME - OT Evaluation/Intervention

• Occupational Profile –
  ▪ occupational role, be careful with occup. hx
  ▪ patient/family goals specific to diabetes

• Precautions –
  ▪ medical, diet, spinal stability, orthopedic

• ADLs –
  ▪ Functional Independent Measure to justify the need of skilled care to implement DSME
  ✓ Portion control, finger method? Plate method?
  ✓ How much does the patient know what to check?
  ✓ Oral hygiene, gum condition? Shoe-size? Feet?
  ✓ One-handed blood glucose check, using the meter?

Occupational Profile Related

“What are the things you do when you feel troubled or stressed?”

“What are different things you do to help you be healthy?”

Estimate if the patient is “ready to learn”
Daily “Contract” for DSME

Start with something small/simple.

Ask your patient to imagine: “Do you see yourself....?”

Example 1:

“Do you see yourself asking your nurse your blood glucose level every morning when she is checking it?”

OT to monitor daily.

Mark A1C or Blood glucose level?

Free patient education handouts at www.learningaboutdiabetes.org
Daily “Contract” for DSME

Start with something small/simple
Ask your patient to imagine:
“Do you see yourself....?”

Example 2:
“Do you see yourself checking the portion of your food before you eat your lunch?

OT to monitor daily.

from: NIDDK “What I need to know about diabetes?”
DSME - OT Evaluation/Intervention

• **General Endurance** –
  • "warm & slightly out of breath" or max. heart rate, linking with relaxation/meditation

• **Functional Cognition** –
  • Can be limited due to diabetes complications

• **Home and Community Participation** –
  • Monitor blood glucose when out of home
  • Exercise program?
  • Driving prep?
  • Family-centered diabetes management?
  • Communication during holiday season?
DSME - OT Evaluation/Intervention

• **Energy Conservation & Work Simplification**

• **Vision/Perception**
  - low vision evaluation, peripheral vision loss, compensatory strategies, home vision monitoring strategies

• **Range of Motion/Motor Control/Strength**
  - Specific to the diagnosis,
  - Must consider the context where the patient is
  - Signs to look for when reaching aerobic effects
  - Maximum heart rate (MHR) = 220 - your age
  - goal: 50 to 75% of your MHR?

S. Fanchiang "Diabetes in Special Populations." Presented during a workshop at OTAC Conference, October 14, 2011. For more information, contact Shanpin Fanchiang, OTR/L, Ph.D. at fanchiang@usc.edu.

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DSME - OT Evaluation/Intervention

• **Safety Related Emergency Management**
  - hypoglycemia unawareness?

• **Health Management Training/Directing Care**
  - Medication management – refilling on time?
  - health records
  - blood glucose monitoring records
  - updates
  - missing a dose of medication

• **Health related appointments**
  - Time management
  - Keeping a planner/calendar

S. Fanchiang "Diabetes in Special Populations." Presented during a workshop at OTAC Conference, October 14, 2011. For more information, contact Shanpin Fanchiang, OTR/L, Ph.D. at fanchiang@usc.edu.
DSME - OT Evaluation/Intervention

- Training in Community Resources Utilization
  - Support groups, ethnic-specific information,
  - patient/family centered approach - asking preferences
  - lifelong learning habits?

- Sensation / Pain for LEs,
  - Pain secondary peripheral vascular disease

- Patient/Family Education
  - Structure them as part of the routines
  - Use “teach-back” to estimate learning

S. Fanchiang “Diabetes in Special Populations.” Presented during a workshop at OTAC Conference, October 14, 2011. For more information, contact Shanpin Fanchiang, OTR/L, Ph.D. at fanchiang@usc.edu.

“Teach-Back” Approach

- “What were the things we’ve discussed that you will share with your wife/husband/daughter/son?”

- “I hope I can improve our communication about these important things. Please help me do a better job. What are the things we just discussed?”

S. Fanchiang “Diabetes in Special Populations.” Presented during a workshop at OTAC Conference, October 14, 2011. For more information, contact Shanpin Fanchiang, OTR/L, Ph.D. at fanchiang@usc.edu.
Individualized OT Assessment – Factors to Consider

- **Health literacy** – learning styles
- **Cultural Diversity** – meaning of illness
- **Age/gender** – muscle mass, changes
- **On the Job Environment** – med management
- **Family & Social Support** – health promotion, motivation
- **Duration of Diabetes** – status of complications
- **Previous, on-going effort** - diabetes self-care
**Health Literacy & Diabetes**

Inability to interpret low blood sugar values

<table>
<thead>
<tr>
<th>Literacy Level</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inadequate Literacy</td>
<td>67.7%</td>
</tr>
<tr>
<td>Marginal Health Literacy</td>
<td>45.3%</td>
</tr>
<tr>
<td>Adequate Health Literacy</td>
<td>23.5%</td>
</tr>
</tbody>
</table>

* Gazmararian, 1997

---

**Cultural Diversity & Diabetes**

- Notice that cultural norms may affect
  - how a disease is perceived &
  - how healthcare communication is done.

- Be aware of culturally specific language & metaphors.

- Incorporate patients’ metaphors to make the care more meaningful and relevant to them.

- Adapt communication styles during clinical encounters ➔ ask processes

* Huttlinger et al., 1992
Age and Diabetes

• >40 yr old ➔ more likely to get type 2 diabetes
• Age ➔ Increased insulin resistance
• Lifestyle factors contributing to age-associated decrease in insulin sensitivity include:
  ➢ dietary changes: higher intake of saturated fat and simple sugars
  ➢ reduced physical activity: less skeletal muscle mass and reduced strength


Recap

• Stroke – diabetes; SCI ➔ prevent diabetes
• Patients w neurological dx - diabetes
• Patients w diabetic foot amputation, issues
• Factors to consider for OT intervention
• Incorporating DSME in OT intervention
• Behavioral changes you can negotiate with your patients to take one action at a time:
  To establish “Daily contract”
Part I: Conclusion

• Questions and answers (10 min)

• BREAK! (10 min)

Part 2: Case studies: Intervention approaches
Case Studies

• Outpatient
  o “Ariana” – type 1 diabetes
  o “Rosalie” – type 2 diabetes

• Primary care: family medicine clinic
  o “Denise” – prediabetes

• Inpatient rehabilitation
  o “Lydia” – type 2 diabetes s/p stroke, husband “Tom” also has diabetes

Coding

• 97003 Initial Evaluation
• 97004 Re-Evaluation
• 97150 Therapeutic Group
• 97532 Development of Cognitive Skills
• 97530 Functional/Therapeutic Activity
• 97535 ADL’s
• 97537 Community/Work Reintegration
• *97533 S.I. Tech
Diabetes Case Study: “Ariana”

- **Age:** 21 years old
- **Gender:** female
- **Setting:** County hospital outpatient diabetes clinic
- **Diagnosis:** Type 1 diabetes
- **Reason for Referral:**
  - Chronic poor glucose control (A1C = 14%)
  - Not performing self-care regimen as prescribed
- **Primary Occupations:**
  - Providing childcare for brother's three children
  - Going out with friends (movies, shopping, "clubbing")

---

Case Study Questions

What problems does the client present with?

What are his/her goals?
- Skills and Competencies (short-term goals)
- Areas of Occupation (long-term goals)

What assessments would you use?

What type of intervention (CPT codes)?

What frequency and duration?
Diabetes Case Study: “Rosalie”

- **Age:** 42 years old
- **Gender:** Female
- **Setting:** Outpatient private practice
- **Diagnosis:** Type 2 Diabetes
- **Reason for Referral:**
  - Required by insurance company to attend behavior modification program prior to gastric bypass surgery
- **Primary Occupations:**
  - On disability from Masters program at prestigious university
  - Engaging in sedentary activities due to decreased activity tolerance
  - Home management, self care, paying bills

Case Study Questions

What problems does the client present with?

What are his/her goals?
- Skills and Competencies (short-term goals)
- Areas of Occupation (long-term goals)

What assessments would you use?

What type of intervention (CPT codes)?

What frequency and duration?
Diabetes Case Study: “Denise”

- **Age:** 28 years old
- **Gender:** female
- **Setting:** family medicine clinic
- **Diagnosis:** prediabetes
- **Reason for Referral:**
  - weight management
  - diabetes prevention
- **Primary Occupations:**
  - Mother to three young children
  - Wife
  - Volunteer at children’s school and church

Case Study Questions

What problems does the client present with?

What are his/her goals?

- Skills and Competencies (short-term goals)
- Areas of Occupation (long-term goals)

What assessments would you use?

What type of intervention (CPT codes)?

What frequency and duration?
Diabetes Case Study: “Lydia” and “Tom”

- **Age:** 58 (Lydia), 61 (Tom)
- **Gender:** female & male (husband and wife)
- **Setting:** inpatient rehabilitation hospital
- **Diagnosis:** type 2 diabetes, stroke with L hemiparesis (Lydia); type 2 diabetes (Tom)
- **Reason for Referral:**
  - Diabetes self-management
  - Patient/family education
- **Primary Occupations:**
  - Lydia: reading, homemaking, watching TV, visiting family, worked as daycare provider
  - Tom: watching sports, visiting family, works in hardware store

Case Study Questions

What problems does the client present with?

What are his/her goals?
- Skills and Competencies (short-term goals)
- Areas of Occupation (long-term goals)

What assessments would you use?

What type of intervention (CPT codes)?

What frequency and duration?
Part 3

Reimbursement, Advocacy & Healthcare Reform

Outpatient Private Practice Setting

- Coding and billing
- Reimbursement rates from different payers
- Special contracts
- Effective Marketing
Payers

<table>
<thead>
<tr>
<th>Payer</th>
<th>Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medicare</td>
<td>Physician prescription for OT and Dx CPT code</td>
</tr>
<tr>
<td>PPO</td>
<td></td>
</tr>
<tr>
<td>Private pay</td>
<td>Client can self-refer, no Dx code necessary</td>
</tr>
<tr>
<td></td>
<td>35% Discount offered</td>
</tr>
<tr>
<td>Self-insured</td>
<td>Specific contract with its own set of requirements</td>
</tr>
<tr>
<td>corporations</td>
<td></td>
</tr>
</tbody>
</table>

Coding

- 97003 Initial Evaluation
- 97004 Re-Evaluation
- 97150 Therapeutic Group
- 97532 Development of Cognitive Skills
- 97530 Functional/Therapeutic Activity
- 97535 ADL’s
- 97537 Community/Work Reintegration
- *97533 S.I. Tech
### Average Reimbursement Rates 2010

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Charge Amt.</th>
<th>Avg. Payment from Medicare &amp; PPOs</th>
</tr>
</thead>
<tbody>
<tr>
<td>97003</td>
<td>Initial Evaluation</td>
<td>$210</td>
<td>$77-112</td>
</tr>
<tr>
<td>97004</td>
<td>Re-Evaluation</td>
<td>$130</td>
<td>$30-67</td>
</tr>
<tr>
<td>97150</td>
<td>Therapeutic Group</td>
<td>$50</td>
<td>$21-27</td>
</tr>
<tr>
<td>97532</td>
<td>Dev. Cognitive Skills</td>
<td>$70/unit</td>
<td>$30-35</td>
</tr>
<tr>
<td>97530</td>
<td>Functional/Therapeutic Activity</td>
<td>$40/unit</td>
<td>$30-45</td>
</tr>
<tr>
<td>97535</td>
<td>ADLs</td>
<td>$90/unit</td>
<td>$31-45</td>
</tr>
<tr>
<td>97537</td>
<td>Community/Work Reintegration</td>
<td>$80/unit</td>
<td>$31-40</td>
</tr>
<tr>
<td>*97533</td>
<td>S.I. Tech</td>
<td>$70/unit</td>
<td>$32-39</td>
</tr>
</tbody>
</table>

### Outpatient: Cigna PPO

Patient's OT benefits:

- unlimited sessions
- $15 co-pay
- no co-insurance
- MD script/referral with Dx required
- Dx: metabolic disorder & glucose intolerance
### Outpatient: Cigna PPO

**Dx:**
- Impaired fasting glucose (790.21)
- Unspecified disorder metabolism (277.9)

<table>
<thead>
<tr>
<th>Eval/Initial Visit</th>
<th>Therapeutic Procedures</th>
<th>Charge amount</th>
<th>Paid Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 eval (97003)</td>
<td>$210</td>
<td>115.48 by Cigna + $15 from client</td>
</tr>
<tr>
<td></td>
<td>2 units of ADLs (97535)</td>
<td>$180</td>
<td>+ $80.70 (for 2 units ADLs)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Total: $211.22</td>
</tr>
</tbody>
</table>

**Subsequent visits:**
- 4 units fx therapeutic activity (97530)

<table>
<thead>
<tr>
<th>Charged Amount:</th>
<th>Paid Amount:</th>
</tr>
</thead>
<tbody>
<tr>
<td>$160</td>
<td>$145 by Cigna + $15 from client</td>
</tr>
<tr>
<td></td>
<td>Total: $160 x 7 sessions</td>
</tr>
</tbody>
</table>

### Outpatient: Aetna PPO

**Patient’s OT Benefits:**
- Required to complete 8 sessions for authorization for bariatric surgery
- No co-pay
- 10% co-insurance
- MD script/referral with Dx required
- Dx: morbid obesity & arthritis
Outpatient: Aetna PPO

Dx: morbid obesity & arthritis

<table>
<thead>
<tr>
<th>8 Visits</th>
<th>Therapeutic Procedures</th>
<th>Charged Amount</th>
<th>Paid Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4 units of functional therapeutic activity (97530)</td>
<td>$160</td>
<td>$117.40 + $13.04 from client</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Total: $130.44 per visit</td>
</tr>
</tbody>
</table>

Self-Insured Corporation

• Example: USC Network Insurance

• Contract for Weight Management Program
  o Members can self-refer
  o Financial incentive for good attendance and good clinical outcomes
Education about Services: Marketing

• Most health professionals in various settings (physicians, nurses, dieticians, etc.) don’t know that OT offers valuable treatment for diabetes

• Most patients/consumers don’t know about OT’s services for diabetes

Education about Services: Marketing

Approaches for referring health professionals:

- Appropriate brochures, materials, etc.
- Useful and visible presentations
- Share clinical outcomes when available
- Send documentation regarding patients’ progress
- Fax evaluation summary and progress summaries every 8 weeks
- Develop ongoing relationships
- Attend events, invite to lunches
Fax – Progress Summary

Dear Physician,

Thank you for referring your patient (client’s name, DOB ___) to our USC Lifestyle Redesign® (program name). He/She has been attending sessions once a week for the past __ weeks. He/She has been making progress in the areas of (name a few). We have discussed various challenges and situations which have influenced (client’s name) current lifestyle. Some of these challenges and situations include (name a few). (Client’s name) and I have worked on developing customized strategies which client is utilizing such as (name a few). These strategies have helped (client’s name) replace the unhealthy habits with healthier ones, implement these healthy habits into his/her everyday and increase (client’s name) overall wellness and life satisfaction.

Please let me know if you have any questions regarding (client’s name) progress. Thank you very much for your partnership in our efforts to bring a better quality of life to people in need of a Lifestyle Redesign®.

Sincerely,
Education about Services: Marketing

Marketing approaches for consumers:

- Attract interest and increase visibility
  - Appropriate and consistent collateral
  - E-newsletters and announcements via email
  - New and free events
- Be accessible and convenient
  - Costs
  - Clinic hours
  - Ease of scheduling
  - Parking
Healthcare Reform
Healthcare Reform

The Goals of Healthcare Reform:

• Coverage
• Quality
• Cost

Healthcare Reform

• **Coverage**
  o Individual mandate
  o Expansion of Medicaid
  o No denial of pre-existing conditions
  o No lifetime caps on benefits
  o Coverage until age 26
Healthcare Reform

• Coverage
  o Medicaid expansion

Incidence of Diabetes among ethnic groups

Source www.cdc.gov

Healthcare Reform

• Coverage
  o Medicaid expansion

Incidence of Diabetes among education levels

Source www.cdc.gov
Healthcare Reform

• **Quality**
  • Primary Care Redefined
  • Primary Care defined in the Affordable Care Act: “the provision of integrated, accessible health care services by clinicians who are accountable for addressing a large majority of personal health care needs, developing a sustained partnership with patients, and practicing in the context of family and community”

Healthcare Reform

• **Patient Centered Medical Home (PCMH)**
  - Primary care delivery
  - Prevention and wellness
  - Chronic care management
  - Coordination of spectrum of care delivery
  - Improving individual involvement in determining health outcomes
    - Whole person orientation across the lifespan
    - Integration of OT services!

• **Patient Centered Medical Home Neighbor**
  - Patients are co-managed by PCMH and OT “Neighbor”
    - i.e. outpatient OT facility with highly coordinated care between PCMH and OT clinic
Healthcare Reform

• Accountable Care Organizations (ACOs)
  o Network of providers who **share** responsibility for management and coordination of a patient’s spectrum of care
  o Shared cost savings among all providers – financial incentives to improve outcomes
  o Some networks will achieve official and formal ACO status while others will implement ACO standards and function like an ACO

• Federally Qualified Health Center (FQHC)
  o Publically funded health center
  o Financial incentives within the ACA to improve delivery of care and improve outcomes

• Focus on Prevention
  o Annual Wellness Visit with Personalized Prevention Plan
  o National Diabetes Prevention Program
Healthcare Reform

• Cost!
  o Cost of Diabetes in the United States (2009)
    ▪ $174 billion:
      ▪ $116B in direct costs of treatment
      ▪ $58.3B in lost productivity
  o Well Elderly I & II
    ▪ Preventive occupational therapy is cost effective in reducing healthcare utilization and improving health outcomes and life satisfaction

Healthcare Reform

• Changing Models of Reimbursement
  1. Quality indicator for PCMH designation by: National Committee for Quality Assurance (NCQA)
  2. Cost-savings - longitudinal impact as the result of improved continuity of care and medical resource management
  3. OT must become an invaluable member of the team!
Healthcare Reform

NCQA Recognized PPC-PCMH Sites

As of 12/31/10

1,506 PPC-PCMH SITES

PCMH Standards

NCQA PCMH 2011
6 Standards, 27 Elements, 130 Factors

<table>
<thead>
<tr>
<th>Standards</th>
<th>Measurement and Evaluation</th>
<th>Minimum Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Patient Centeredness</td>
<td>10</td>
<td>6</td>
</tr>
<tr>
<td>2. Quality and Performance Improvement</td>
<td>15</td>
<td>10</td>
</tr>
<tr>
<td>3. Access and Continuity</td>
<td>15</td>
<td>10</td>
</tr>
<tr>
<td>4. Preventive Care and Screening</td>
<td>10</td>
<td>6</td>
</tr>
<tr>
<td>5. Health Information Technology</td>
<td>10</td>
<td>6</td>
</tr>
<tr>
<td>6. Effective Care Management and Health Information Technology</td>
<td>15</td>
<td>10</td>
</tr>
</tbody>
</table>

5/1/2012

60
PCMH Outcomes

• Health Affairs March 2012: Tool Used to Assess How Well Community Health Centers Function as Medical Homes May be Flawed

• Data suggests clinics will be successful at achieving PCMH status however all clinics will not demonstrate improvements in Diabetes outcomes

• GREAT opportunity for OT to advocate for its role in meeting PCMH requirements and achieving real results!

“…primary care innovation within community health centers is imperative. Innovators should not be satisfied with redesigning practices based solely on one organization’s definition of the medical home”

Innovation = OT!
Healthcare Reform

Be an invaluable member of the team!

The USC OS/OT Division is participating in the CIC collaboration by:

1. Contributing to the development of the health promotion and wellness components of the ACO
2. Developing the Patient-Centered Medical Home (PCMH) primary care team model with Family Medicine that will be implemented as part of the ACO

Cost savings - longitudinal impact as the result of improved continuity of care and medical resource management

• Measures of success for PCMH:
  o Decreased ER visits
  o Reduced hospitalizations
  o Improved patient and provider satisfaction
  o Improved process – EMR, tele-health
  o Quality of care – better chronic disease management (Biometrics: BMI, hemoglobin A1C, LDL, immunizations…)

• Examples: Galaxy-Care, GroupHealth, CIC
Healthcare Reform

What can YOU do?
- Contact your Department of Public Health to find out how they are implementing HCR
- Meet with your legislative representatives, introduce OT and ask what your community is doing to improve health outcomes
- Find out what demonstrations/pilots are occurring in your area
- On the ground advocacy – contact local primary care clinics, community health centers to find out what they are doing and how OT can become involved
- AOTA resources – Legislative Action Center, OT Connections, AOTA factsheets
- Have “Occupational Therapist” named in the annual update of the Diabetes Self-Management Education Standards

THANK YOU!

http://ot.usc.edu/patient-care/faculty-practice/diabetes

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Camille Dieterle: dieterle@usc.edu
Chantelle Rice: chantelr@usc.edu
Case Study Answers - Ariana

What problems does the client present with?
• Little control over her day-to-day schedule
• Unable to get to medical appointments
• Diabetes is poorly controlled
• Feels depressed about her life situation

What are his/her goals?
• Skills and Competencies (short-term goals)
  • Find another job and move out of brother’s home
  • Go to scheduled medical appointments
  • Take insulin and test blood sugar consistently
• Areas of Occupation (long-term goals)
  • Go to school to study medical assisting
  • Sponsor mother to get legal documents and move to United States
  • Maintain control of diabetes and prevent long-term complications

Case Study Answers - Ariana

What assessments would you use?
• Occupational performance and goal-setting
  • Canadian Occupational Performance Measure (COPM)
• Depression screening
  • Patient Health Questionnaire-9 (PHQ-9)
• Self-efficacy in managing diabetes
  • Diabetes Empowerment Scale-Short Form (DES-SF)
• Performance of diabetes self-care behaviors
  • Self-Care Inventory-Revised (SCI-R) or Summary of Diabetes Self-Care Activities (SDSCA)
# Case Study Answers - Ariana

**What type of intervention (CPT codes)?**
- Develop routines for performing diabetes self-care *(97535 ADLs)*
- Make plan for getting to medical appointments and pharmacy: transportation, child care, social support *(97537 Community/Work Reintegration)*
- Explore possibilities for new job *(97537 Community/Work Reintegration)*

**What frequency and duration?**
- Weekly for 8 weeks; then re-evaluate (continue biweekly or monthly, or d/c)

---

# Case Study Answers - Rosalie

**What problems does the client present with?**
- Poor blood glucose control
- Diabetes complications
- Poor weight management
- Occupational deprivation
- Limited movement
- Lack of physical activity
- Decreased participation in self-care
- Depression, stress and anxiety
Case Study Answers - Rosalie

What are his/her goals?

Skills and Competencies (short-term goals)
• Client will complete food diary 7/7 to increase awareness of current eating patterns and increase ability to plan and prepare appropriate meals
• Client will use C-Pap machine 4/7 to increase rest and energy to incr. funct in ADLs and IADLs

Areas of Occupation (long-term goals, appropriate for gastric bypass preparation)
• Clt. will meal plan, eating 3 meals/day with 2 healthy snacks, 7/7
• Clt. will incorporate physical activity 5x/wk, approx. 30 min
• Clt. will use C-PAP machine 7/7

What assessments would you use?
• Healthy eating
• Physical activity
• Healthy Coping
• Problem-Solving
• Risk Reduction

What type of intervention (CPT codes)?
• Functional Therapeutic Activity
• ADLs
• Community/Work Reintegration

What frequency and duration?
• 1x/wk for approx. 2 months
Case Study Answers - Denise

What problems does the client present with?
- Poor organization/time management
- Decreased motivation
- Husband brings unhealthy food into home

What are his/her goals?
• Skills and Competencies (short-term goals)
  - Denise will fill herself a water bottle every time she fills one for her son to increase preparation for increasing consumption of water
  - Denise will wake up her 2 year old son 30 minutes later in the morning 3/7 mornings to increase time for self in order to increase frequency of breakfast throughout the week
• Areas of Occupation (long-term goals)
  - Denise will increase awareness of eating routines and food choices in order to implement health behavior changes for diabetes prevention
  - Denise will implement 3 time management strategies in order to increase time for self-care health behaviors that decrease risk for diabetes
  - Implement family activities to prepare food for family outings on weekend to decrease likelihood of buying street food

What assessments would you use?
- Healthy eating
- Physical activity
- Problem-Solving
- Risk Reduction

What type of intervention (CPT codes)?
- CPT codes not currently used in family medicine

What frequency and duration?
- 1 hour/week for ~6 months
Case Study Answers – Lydia & Tom

Focus
- Diet/food: how much, when, what
- Physical activities/exercise
- Stress management/relaxation
- Family involvement

During Inpatient stay
- Connection: food and blood sugar
- DSME in daily activities, anticipating home setting

During Outpatient
- Resources/support group
- Life long learning actions/occupations
- Continuing support: food, body-weight

Case Study Answers - Lydia & Tom

What type of intervention (CPT codes)?
- Functional activity
- Self-management
- Patient/family education
- ADLs/IADLs

What frequency and duration?
- Inpatient: 60 min. 6 days/week (integrate DSME with OT intervention)
- Outpatient: 2-3 sessions/week for 6 weeks