DEMENTIA CARE: AVOIDING OVERUSE OF MEDICATIONS

Medications in Dementia Care

WHY WORRY ABOUT OVERUSE?

- Resident rights
- “Chemical restraints”
- Side effects and adverse reactions
- Quality of life
- Increased fall risk
- Increased risk of mortality (off-label antipsychotics)
THREE “CATEGORIES” OF MEDICATIONS

<table>
<thead>
<tr>
<th>Treat the disease</th>
<th>Manage symptoms</th>
<th>Common medications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aricept</td>
<td>Psychotropic medications</td>
<td>Heart medications</td>
</tr>
<tr>
<td>Namenda</td>
<td>Antidepressants</td>
<td>Pain medications</td>
</tr>
<tr>
<td>Etc…</td>
<td>Anticonvulsants</td>
<td>Insulin</td>
</tr>
<tr>
<td></td>
<td>Etc…</td>
<td>Etc…</td>
</tr>
</tbody>
</table>

• FDA has approved two types of medications to treat cognitive symptoms
• Cholinesterase inhibitors (Aricept, Exelon, Razadyne)
• Memantine (Namenda)
• Cannot stop damage to brain cells
• May help lessen or stabilize symptoms

MEDICATIONS FOR MEMORY LOSS

• Early to moderate stages
• Prevent the breakdown of acetylcholine, a neurotransmitter important for learning and memory
• Delay worsening of symptoms for 6-12 months
• Generally well tolerated
MEMANTINE (NAMENDA)

- Moderate to severe stages
- Improves memory, attention, reasoning, language, and the ability to perform simple tasks
- Often used in combination with other drugs
- Can cause side effects (headache, constipation, confusion, and dizziness)

Psychotropic Medications

DIFFERENT NAMES...

- Psychoactive drugs
- Psychotropic drugs
- Psychiatric drugs
- Psychotherapeutic drugs
- Psychopharmaceutical
PSYCHOTROPIC MEDICATIONS

- Chemical substances that change brain function and result in alterations in perception, mood, or consciousness
- Includes prescription drugs to treat mental illness and recreational drugs
- Alter neurotransmitters in the brain

CLASSES OF PSYCHOTROPIC DRUGS

<table>
<thead>
<tr>
<th>Class</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antidepressants</td>
<td>Major depression, anxiety, eating disorders</td>
</tr>
<tr>
<td>Antipsychotics</td>
<td>Psychosis, schizophrenia, mania</td>
</tr>
<tr>
<td>Anxiolytics (anxiety)</td>
<td>Anxiety disorders</td>
</tr>
<tr>
<td>Mood stabilizers</td>
<td>Bipolar depression</td>
</tr>
<tr>
<td>Stimulants</td>
<td>ADHD</td>
</tr>
<tr>
<td>Depressants</td>
<td>Sedatives, anesthesia</td>
</tr>
</tbody>
</table>
USE OF PSYCHOTROPICS

- Use has grown in the last two decades
- Used for treatment in 77% of mental health cases
- $2.8 billion in 1987 to $18 billion in 2001

WHY HAS USE GROWN?

- Gains in efficacy and effectiveness
- Expanding insurance coverage
- Direct to consumer advertising
- Convenience of staff

ANTIPSYCHOTICS

<table>
<thead>
<tr>
<th>Conventional Antipsychotics</th>
<th>Atypical Antipsychotics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlorpromazine (Thorazine)</td>
<td>Risperidone (Risperdal)</td>
</tr>
<tr>
<td>Haloperidol (Haldol)</td>
<td>Olanzapine (Zyprexa)</td>
</tr>
<tr>
<td>Perphenazine</td>
<td>Quetiapine (Seroquel)</td>
</tr>
<tr>
<td>Fluphenazine</td>
<td>Ziprasidone (Geodon)</td>
</tr>
<tr>
<td></td>
<td>Aripiprazole (Abilify)</td>
</tr>
<tr>
<td></td>
<td>Paliperidone (Invega)</td>
</tr>
<tr>
<td></td>
<td>Lurasidone (Latuda)</td>
</tr>
</tbody>
</table>
ANTIPSYCHOTIC SIDE EFFECTS

- Drowsiness
- Dizziness when changing positions
- Blurred vision
- Rapid heartbeat
- Sensitivity to the sun
- Skin rashes
- Menstrual problems for women
- Weight gain (atypicals)

ANTIPSYCHOTIC SIDE EFFECTS

Traditional antipsychotics:
- Rigidity
- Persistent muscle spasms
- Tremors
- Restlessness
- Tardive dyskinesia

ANTIDEPRESSANTS

- Fluoxetine (Prozac)
- Citalopram (Celexa)
- Sertraline (Zoloft)
- Paroxetine (Paxil)
- Escitalopram (Lexapro)
- Venlafaxine (Effexor)
- Duloxetine (Cymbalta)
- Bupropion (Wellbutrin)
ANTIDEPRESSANT SIDE EFFECTS
SSRIs and SNRIs
- Headache
- Nausea (feeling sick to your stomach)
- Sleeplessness or drowsiness
- Agitation (feeling jittery)
- Sexual problems

ANTIDEPRESSANT SIDE EFFECTS
Tricyclic Antidepressants
- Dry mouth
- Constipation
- Bladder problems
- Sexual problems
- Blurred vision
- Drowsiness

MOOD STABILIZERS
- Lithium
- Divalproex sodium (Depakote)
- Carbamazepine (Tegretol)
- Lamotigine (Lamictal)
- Oxcarbazepine (Trileptal)
MOOD STABILIZER SIDE EFFECTS

Lithium
- Loss of coordination
- Excessive thirst
- Frequent urination
- Blackouts
- Seizures
- Slurred speech
- Fast, slow, irregular, or pounding heartbeat
- Hallucinations (seeing things or hearing voices that do not exist)
- Changes in vision
- Itching, rash
- Swelling of the eyes, face, lips, tongue, throat, hands, feet, ankles, or lower legs

MOOD STABILIZER SIDE EFFECTS

Depakote
- Changes in weight
- Nausea
- Stomach pain
- Vomiting
- Anorexia
- Loss of appetite

ANTIANXIETY DRUGS

- Clonazepam (Klonopin)
- Lorazepam (Ativan)
- Alprazolam (Xanax)
- Buspirone (Buspar)
ANTIANXIETY DRUG SIDE EFFECTS

Benzodiazepines
- Drowsiness and dizziness
- Upset stomach
- Blurred vision
- Headache
- Confusion
- Grogginess
- Nightmares

ANTIANXIETY DRUG SIDE EFFECTS

Buspar
- Dizziness
- Headaches
- Nausea
- Nervousness
- Lightheadedness
- Excitement
- Trouble sleeping

Reducing the Use of Psychotropic Medications
ANTIPSYCHOTICS AND DEMENTIA

- May help for people with dementia who have psychosis
- Most of the time mis-used for challenging or disturbing behaviors
- Don't address root cause of the behavioral issue

BLACK BOX WARNING

Warning: Increased Mortality in Elderly Patients with Dementia-Related Psychosis. Elderly patients with dementia-related psychosis treated with antipsychotic drugs are at an increased risk of death. [Name of Antipsychotic] is not approved for the treatment of patients with dementia related psychosis

REDDUCING OFF-LABEL USE OF ANTIPSYCHOTICS

THE GOALS
1. Safely Reduce Hospital Readmissions
2. Increase Staff Stability
3. Increase Customer Satisfaction
4. Safely Reduce the Off-Label Use of Antipsychotics
NCAL QUALITY INITIATIVE

- Safely reduce off-label use of antipsychotics by 15%
- Communities that have less than 5 percent of off-label use maintain rates at
- All communities will implement use of at least one tool aimed at reducing off-label use of antipsychotics
- www.ncal.org

QUALITY OUTCOMES

- Improves performance in this quality measure and potentially affects other measures.
- Decreases the side effects and adverse drug reactions associated with these medications.

FINANCIAL STABILITY

- Adverse Drug Events (ADEs) may require hospitalization and the community may experience lost revenue for days the resident is not in the community.
- Trial attorneys may use the incidence of off-label antipsychotic usage to bolster their cases.

Source: National Center for Assisted Living, www.ncal.org
BUSINESS OPPORTUNITIES

- A reputation for using innovative, person-centered care approaches will provide a competitive advantage.
- Raises the energy level and fosters a vibrant atmosphere which is attractive to visitors and potential customers touring the community.
- Attracts more innovative practitioners that will expand a community's reputation.

Source: National Center for Assisted Living, www.ncal.org

STAFF STABILITY

- Staff will experience the fulfillment and positive changes that come when they are focused on providing care that meets a person's needs.
- When staff are more fulfilled, they are engaged.
- Engaged staff are more likely to recommend their assisted living community as a place to work. Word spreads; good care recruits good caregivers.

Source: National Center for Assisted Living, www.ncal.org

CUSTOMER SATISFACTION

- Non-pharmacologic interventions help to enhance an individual's ability to direct their care, which improves their independence, dignity, and quality of life.
- Family members of individuals that are more satisfied and engaged are more likely to recommend their facility to others as a place for quality care.

Source: National Center for Assisted Living, www.ncal.org
### TRACKING PROGRESS: INCIDENCE

| # of residents with antipsychotic drug use indicated on medical records over the first 90 days at the assisted living |
| # of residents who have been at assisted living for 90 or less days |

### TRACKING PROGRESS: PREVALENCE

| # of residents (who have been at the AL over 90 days) with antipsychotic drug use indicated on medical records at the end of the target period |
| # of residents (who have been at the AL over 90 days) at the end of the target period |

### Non-Drug Care Strategies
BEHAVIOR MANAGEMENT

- Can be one of the most challenging aspects of caring for residents with dementia
- The key is to have an established management technique
- Behaviors are not resolved, they are managed.
- Caregivers will find caring for residents with dementia less stressful if they accept that difficult, and even bizarre behaviors are a normal part of the illness

THREE KEY POINTS

- Stop Judging and Become Curious
- It’s a Need not a Behavior
- Understand the disease

DEMENTIA IS A DISEASE

[Image of normal brain and Alzheimer's brain]
IT'S A NEED NOT A BEHAVIOR

- Discomfort
- Pain
- Hunger
- Frustration
- Delusions/hallucinations
- Sad/depressed

OUR APPROACH

- Caregiver actions that startle, threaten, cause pain, or just annoy the resident
- Not gaining permission
- Not using the Positive Physical Approach
- Not being gentle and calm
- Not respecting the resident’s wishes
- Asking the resident why he/she did something
- Scolding or other “tone-ing”
- Demanding that the resident be polite
- Not using necessary prompts

POSITIVE APPROACH

- Approach from the front
- Go slow
- Get to the side
- Get low
- Offer your hand (use preferred name)
- Skill Builder: Return demonstration of Positive Physical Approach
TOP 5 TIPS...

1. Try not to take behaviors personally
2. Remain patient and calm
3. Explore pain as a trigger
4. Don’t argue or try to convince
5. Accept behaviors as a reality of the disease and try to work through it

Source: Alzheimer’s Association

BEHAVIOR MANAGEMENT

- Step 1: Is the behavior a problem?
- Step 2: What is the problem?
- Step 3: Who, when and where?
- Step 4: Why?
- Step 5: How will you manage the behavior?
- Step 6: Reassessment

STEP 1: IS THE BEHAVIOR A PROBLEM?

- A behavior is not a problem unless it negatively affects the resident with the behavior or other residents
- If a behavior does not negatively affect the resident or other residents, management of the behavior is not necessary
STEP 2: WHAT IS THE PROBLEM?

- Specifically identify what the problem behavior is

STEP 3: WHO, WHEN, AND WHERE?

- Identify with whom the problem behavior occurs, when it occurs, and where it occurs
- This can identify specific triggers that may be causing the problem behaviors
- Such as specific times of day, specific residents or staff, or specific places or situations

STEP 4: WHY?

- This step can be difficult but attempt to identify why the problem behavior occurs
- If a specific reason for the behavior cannot be identified, it can be related to a symptom of dementia
STEP 5: HOW WILL YOU MANAGE THE BEHAVIOR?

- This step must be done as a team effort
- All members of the staff and caregivers in your community can contribute
- Remember, problem behaviors in dementia are managed, not resolved

STEP 6: REASSESSMENT

- It is vital that the problem behavior is regularly reassessed
- Is it getting better?
- Has it become worse?
- Should your management solution be changed or updated?
- Establish a regular time frame for reassessments, such as; every day, every week, etc.

COMMON TRIGGERS

- Pain
- Frustration
- Demoralizing or infantilizing approach
- Misunderstanding a request
- Fatigue
- Communication barriers
- Inability to perform a task
- Inability to express needs
- Rapid change in the environment
Behavior Tips…

• Try to identify the immediate cause
• Rule out pain as a source of stress
• Focus on feelings, not the facts
• Don’t get upset
• Limit distractions
• Try a relaxing activity
• Shift the focus to another activity
• Decrease level of danger
• Avoid using restraint or force

AGGRESSION AND ANGER

Source: Alzheimer’s Association

• Keep the home well lit in the evening
• Make a comfortable and safe sleep environment
• Maintain a schedule
• Avoid stimulants and big dinners
• Plan more active days
• Try to identify triggers

SLEEP ISSUES AND SUNDOWNING

Source: Alzheimer’s Association
SEXUAL BEHAVIOR CHALLENGES

- Ensure safety of residents and staff
- Resident rights
- Ability to consent
- Communicate with family
- Relocate if needed

THERE IS A DIFFERENCE

- Wandering vs Elopement
- Wandering can be safe, but must be monitored
- Exit-seeking

NY AHSA ELOPEMENT RISK SCALE

- www.nccdp.org
- Upon move-in
- After 72 hours of admission
- Every month for those identified as high risk to wander
- Whenever there is a change in condition
- 0 – 8 = Low Risk
- 9 – 10 = At Risk to Wander
- 11 – above = High Risk to Wander
### Wandering Risk Scale

<table>
<thead>
<tr>
<th>Date of Assessment</th>
<th>Medical Care Vendor</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**ADMISSION DIAGNOSIS**
- [ ] Not Applicable
- [ ] Confusion
- [ ] Patient dependent in ADL who cannot move without assistance
- [ ] Somnolence

**BEHAVIORAL PATTERNS**
- [ ] Lingered
- [ ] Ostracization
- [ ] Repeatedly visit unknown place
- [ ] Uncontrolled

**BEHAVIORAL PATTERN**
- [ ] Lingered
- [ ] Ostracization
- [ ] Repeatedly visit unknown place
- [ ] Uncontrolled

**TOTAL SCORE**
- [ ] Score

---

### TIPS FROM WWW.ALZ.ORG
- Carry out daily activities.
- Identify the most likely times of day that wandering may occur.
- Reassure the person if he or she feels lost, abandoned or disoriented.
- Ensure all basic needs are met.
- Place locks out of the line of sight.
- Camouflage doors and door knobs.
- Alarm doors and windows.
- Keep car keys out of sight.
- Supervise and monitor!

---

### HOW CCG HELPS
California Southland Chapter has teamed up with Care and Compliance Group to offer nine online training courses specific to Alzheimer’s and dementia care:
- *Overview of Dementia and Alzheimer's Disease*
- *Communication*
- *Actives*
- *Working with Families*
- *Managing Difficult Behaviors*
- *Personal Care & Special Needs*
- *Elder Abuse and Reporting Laws*
- *Medications for Behavioral Problems in Dementia*
- *The Best Friends Approach to Alzheimer’s Care*
Sexual Behavioral Challenges

SEX AND DEMENTIA

- The onset of dementia doesn’t necessarily mean the end of sexual relationships
- Intimate relationships may take on a different form

WHAT IS SEXUALITY?

- The expression of male and female sexual desires, instincts and activities
- Natural, normal part of life
- Even as we age
THE BRAIN IS IN CONTROL

- Sexual expression may change for residents with dementia due to changes in the brain
- Sexual feelings and inhibitions are personal and individual
- Sexual feeling can change unpredictably

YOUR RESIDENT MAY EXPERIENCE

- Greater interest in sex
- Less or no interest in sex
- A greater or less ability to perform sexually

YOU MAY SEE

- Flirting.
- Seeking attention from someone of interest.
- Seeking situating oneself close to another.
- Closer attention to personal appearance.
- Dressing more suggestive.
- Enjoying the social company of the opposite sex.
- Snuggling.
- Hand holding.
- Resting head on another’s shoulder
YOU MAY SEE

- Masturbation in public.
- Sexual lewd remarks.
- Initiating uninvited physical contact.
- Preying on another.
- Intimidation of another (threatening a consequence to someone if they do not agree to go along).
- Forcing intercourse or other sexual act upon another.

DATA

- Not all resident residents have challenging sexual behaviors.
- In one study of hyper-sexuality among an Alzheimer’s population: between 2 and 17%.
- Interestingly, frequency of disinhibited behaviors had similar frequency between men and women:
  - Males - 8%
  - Females - 7%

THE REAL PROBLEM WITH SEX IN AL

- The resident’s family!
POSSIBLE CAUSES/TRIGGERS
- Need for toilet.
- Physical discomfort such as being itchy etc.
- Need for energy release (try dancing or walking).
- Boredom.
- Agitation.
- Becoming overwhelmed.
- Misunderstanding another’s approach (e.g. caregiver providing personal care).
- Mistaking someone for someone else (e.g. spouse or partner).

GENERAL TIPS
- Know the whereabouts of each of your residents in Memory Care.
- Ensure routine monitoring and checks.
- Stay in tune to their company and visitors.
- Keep residents engaged in socially active programming.
- Ensure tactile stimulation in activity programs.
- Provide warm, kind, respectful compliments.
- Encourage engagement with activities throughout the day.

GENERAL TIPS
- Rearrange a person’s day to ensure they are busy during high stress times.
- Visit and spend quiet time with resident.
- Ensure nutrition and exercise routinely.
- Build residents self esteem with letting them do what they can do for themselves successfully.
- Consider personal approaches for different residents. (Person Centered Care).
WHAT IF?

Resident makes lewd comments while providing care?
- Using humor is sometimes effective while redirecting the conversation.
- Consider using another caregiver of another gender.
- Bring music if enjoyed by resident and lead in song.
- Utilizing “2 person assist” may eliminate comments.
- Notify supervisor.

WHAT IF?

Resident reaches out and grabs staff in sexual manner?
- Stop care, respectfully but firmly say “no or stop.”
- Change subject immediately.
- Position self away from resident as safety permits.
- Change care staff who can manage or does not experience the same.
- “2 person assist” may eliminate behavior.
- Notify supervisor.

WHAT IF?

Resident is engaged in masturbation in public area.
- Maintain respect. Remember that resident may not have ability to understand.
- Do not reprimand or create attention.
- Cover if possible and remove resident from area.
- Assist with any hygiene issue.
- Attempt to engage resident in activity program.
- Report to supervisor immediately.
WHAT IF?

**Resident is observed masturbating in room?**
- Ensure resident is safe and private.
- Approach later to assist with hygiene as necessary.
- Report observation to supervisors.
- Avoid any unnecessary gossip.

WHAT IF?

**Resident propositions another dementia resident?**
- Immediately intervene, redirect conversation and engage residents in separate activities in separate areas.
- Assure resident propositioned 1:1 care for time needed to ensure resident is emotionally comfortable and feels safe.
- Do not leave propositioning resident alone. Monitor until behavior subsides.
- Offer snack and/or something repetitive to do with their hands, wiping, sanding, painting, sweeping, dusting, etc.
- Consider taking propositioning resident for a walk to change environment.
- Alert supervisor immediately.

“CAPACITY”

**Residents are capable of forming new relationships.**
- Residents may/may not be aware of results, limits, recognize or understand conditions of relationships.
- Residents may not recognize safety or health concerns.
- Residents may no longer have ability to refuse or rebuke advances.
- The term mental “capacity” is difficult to discern and involves a host of considerations, evaluations, medically and legally.
“CAPACITY”

Generally speaking, residents who may be considered able to provide “consent” have a level of awareness for:

- Ability to understand information that is presented.
- Ability to retain information long enough to be able to make a decision.
- Ability to contemplate information to make an informed decision.
- Ability to communicate decision by some means.
- Awareness of the relationship.
- Ability to avoid exploitation.
- Aware of potential risks.

Other Common High Risk Medications

ADVERSE DRUG EVENTS

- Result in more than 770,000 injuries and deaths each year
- Estimated 106,000 fatal ADEs occur annually
- Cost up to $5.6 million per hospital
- Side effects
- Drug/drug interactions
- Drug/food interactions
ADVERSE DRUG EVENTS

- Older adults are more susceptible
- Physiologic changes of aging (circulation, kidney function, liver function, etc.)
- Volume of medications (6-9 medications on average)
- More likely to be seen by multiple physicians/providers

BEERS CRITERIA

- Originally conceived in 1991 by the late Mark Beers, MD
- Catalogues medications that cause adverse drug events in older adults due to pharmacologic properties and physiologic changes of aging
- Updated by the AGS in 2012
- Should be used as a guide
HIGH RISK MEDICATIONS

• 1/3 of emergency department visits by older adults presenting with ADEs are caused by three drugs
  • Warfarin, insulin, and digoxin

WARFARIN

• “Blood thinner”
• Decreases the clotting (coagulating) ability of the blood
• Does not actually thin the blood
• Does NOT dissolve existing blood clots
WARFARIN

- Used to treat certain blood vessel, heart and lung conditions
- Help to prevent formation of harmful clots
- May prevent the clots from becoming larger and causing more serious problems
- Often prescribed to prevent stroke

WARFARIN

SIDE EFFECTS:
- Bleeding
- Chest pain
- Shortness of breath
- Skin reactions
- Headache
- Stomach pain

Coumadin / Anticoagulant Tracking Log
WARFARIN AND DIET

- Vitamin K can reduce effectiveness
- Kale
- Spinach
- Brussels sprouts
- Parsley
- Collard greens
- Mustard greens
- Chard
- Green tea

WARFARIN AND DIET

- Cranberry juice
- Alcohol
- Can increase the effect of warfarin

INSULIN

- Discovered in 1921
- First major breakthrough in diabetes treatment
- Prior to this time anyone with type 1 diabetes died within a few years after diagnosis
INSULIN

• Required for type 1
• Sometimes used for type 2
• Must be taken regularly
• Sometimes used in combination with oral medications
• Over 20 different forms
• Administered via syringe, pen, or pump

INSULIN PEN

CHARACTERISTICS OF INSULIN

1. Onset The length of time before insulin reaches the bloodstream and begins lowering blood glucose
2. Peak The time during which insulin is at maximum strength
3. Duration How long insulin continues to lower blood glucose

**TYPES OF INSULIN**

<table>
<thead>
<tr>
<th>Type</th>
<th>Onset</th>
<th>Peak</th>
<th>Duration</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rapid-acting</td>
<td>15 minutes after injection</td>
<td>1 hour</td>
<td>2-4 hours</td>
<td>insulin glulisine (Apidra) insulin lispro (Humalog) insulin aspart (NovoLog)</td>
</tr>
<tr>
<td>Regular or Short-acting</td>
<td>30 minutes</td>
<td>2-3 hours</td>
<td>3-6 hours</td>
<td>Humulin R Novolin R</td>
</tr>
<tr>
<td>Intermediate-acting</td>
<td>2-4 hours</td>
<td>4-12 hours</td>
<td>12-18 hours</td>
<td>NPH (Humulin N, Novolin N)</td>
</tr>
<tr>
<td>Long-acting</td>
<td>Reaches bloodstream several hours after injection and lowers glucose evenly over a 24-hour period</td>
<td></td>
<td></td>
<td>insulin detemir (Levemir) insulin glargine (Lantus)</td>
</tr>
</tbody>
</table>

**INSULIN SCHEDULES**

The following will affect blood glucose levels:
- Eating
- Exercise
- Where insulin is injected
- When insulin is injected
- Stress
- Illness

**SYRINGE SAFETY**

- Dispose of in a sharps container
- Handle syringes as little as possible
- Do not recap needles
- Safety devices
- Insulin pens and other medication cartridges and syringes should never be used for more than one person
HYPOGLYCEMIA

Low blood sugar
- Can happen suddenly
- Side effect of diabetes treatment
- Can also be a result of other medications, diseases, etc.
- Usually mild and can be treated quickly

Symptoms
- hunger
- shakiness
- nervousness
- sweating
- dizziness or light-headedness
- sleepiness
- confusion
- difficulty speaking
- anxiety
- weakness

Urgent Treatment
- Check blood glucose level (if applicable)
- If the level is below 70 mg/dL, consume one of these quick fix foods right away:
  - 3 or 4 glucose tablets
  - 1 serving of glucose gel
  - 1/2 cup of any fruit juice
  - 1/2 cup of a regular—not diet—soft drink
  - 1 cup of milk
  - 5 or 6 pieces of hard candy
  - 1 tablespoon of sugar or honey
- Recheck blood glucose in 15 minutes (if applicable)
- Seek medical attention for severe hypotension

Source: National Institute of Diabetes and Digestive and Kidney Diseases, National Institutes of Health
**HYPOGLYCEMIA**

**Prevention**
- Diabetes medications
- Meal plan
- Daily Activity
- Alcohol consumption
- Diabetes management plan

**HYPERGLYCEMIA**

High blood sugar that can be caused by:
- Not taking medication/insulin correctly
- Eating more than planned
- Exercising less than planned
- Stress
- Illness
- The “dawn phenomenon”

**HYPERGLYCEMIA**

**Signs and symptoms:**
- High blood glucose
- High levels of sugar in the urine
- Frequent urination
- Increased thirst
**KETOACIDOSIS**

- “Diabetic coma”
- Occurs if hyperglycemia goes untreated
- Build up of ketones in the blood
- Life-threatening
- Call 9-1-1


**KETOACIDOSIS**

**Signs and symptoms**
- Shortness of breath
- Breath that smells fruity
- Nausea and vomiting
- Very dry mouth


**DIGOXIN**

**EXAMPLES:**
- Lanoxin
DIGOXIN

HOW IT WORKS:
• Increases the force of the heart's contractions

DIGOXIN

USES:
• Heart failure
• Arrhythmias

DIGOXIN

SIDE EFFECTS:
• Dizziness
• Fainting
• Fast, pounding, or irregular heartbeat or pulse
• Slow heartbeat
• Bleeding
• Pinpoint red spots on the skin
• Rash
• Severe stomach pain
<table>
<thead>
<tr>
<th>DIGOXIN TOXICITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Confusion</td>
</tr>
<tr>
<td>• Irregular pulse</td>
</tr>
<tr>
<td>• Loss of appetite</td>
</tr>
<tr>
<td>• Nausea, vomiting, diarrhea</td>
</tr>
<tr>
<td>• Palpitations</td>
</tr>
<tr>
<td>• Vision changes (unusual), including blind spots, blurred vision, changes in how colors look, or seeing spots</td>
</tr>
</tbody>
</table>