# Managing Behavioral and Psychological Symptoms of Dementia (BPSD)

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## Conflicts of Interest

Dr. Melanie Scharrer- No conflicts

Dr. Matthew Biller- No conflicts

Armin Holiday, LNHA - No conflicts

## Talk to your primary care provider or medical team.

Today's presentation is an educational resource.

Not medical advice.

Never implement medication changes without talking with your prescriber.

## What are BPSD?

- physical aggression & agitation
- wandering
- refusing medications
- Refusing assistance with ADLs
- disturbances of sleep-wake cycle
- depression
- apathy
- verbal aggression
- anxiety & irritability
- delusions & hallucinations
- elation, euphoria & disinhibition
- pathological laughing or crying
- alterations in appetite & eating
- sexually inappropriate behaviors

Walaszek *Behavioral & Psychological Symptoms of Dementia* 2019

| Cause of dementia | Behavioral and psychological symptoms |
|---|---|
| Alzheimer's disease | mild dementia: depression, anxiety, insomnia<br>moderate to severe: hallucinations, delusions, repetitiveness, aggression |
| Lewy body disease* | visual hallucinations, delusions, anxiety, REM sleep behavior disorder |
| vascular dementia | apathy, amotivation, depression |
| frontotemporal dementia, behavioral variant | disinhibition, verbal repetitiveness, aggression, hyperorality, apathy |
| Down syndrome | withdrawal/apathy, impulsivity, anxiety, aggression, tantrums, wandering, hoarding, sleep disturbance, weight change |

Walaszek *Behavioral & Psychological Symptoms of Dementia* 2019.
* includes dementia with Lewy bodies and Parkinson disease dementia

## Likelihood of symptom presentation …

| Symptom | Prevalence |
|---|---|
| apathy | 49% |
| depression | 42% |
| aggression | 40% |
| sleep disorder | 39% |
| anxiety | 39% |
| irritability | 36% |
| appetite disorder | 34% |
| aberrant motor behavior | 32% |
| delusions | 31% |
| disinhibition | 17% |
| hallucinations | 16% |
| euphoria | 7% |

Zhao et al., *J Affect Disorder* 2016;190:264-271.

## Why? Possible Meanings of BPSD:

A-B-C (antecedent-behavior-consequence)

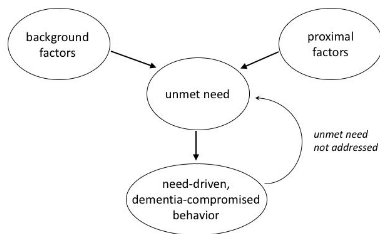
Unmet needs

Lowering Thresholds, Narrowing Windows

## Behavioral Model

Teri et al *Psychotherapy* 1998; 35:436–443.

## Unmet Needs




Kovach et al., *J of Nursing Scholarship* 2005;37:134-140.

## Lowering Thresholds

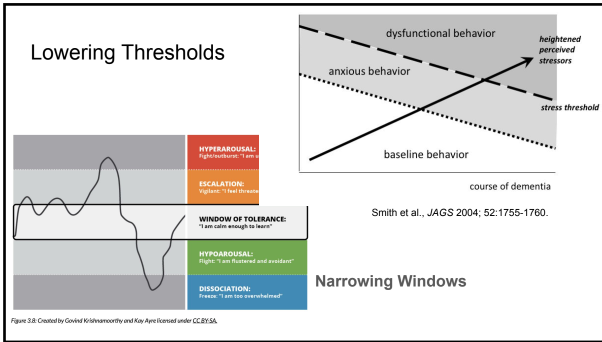



Figure 3.8: Created by Govind Krishnamoorthy and Kay Ayre licensed under CC BY-SA.

Smith et al., *JAGS* 2004; 52:1755-1760.

Narrowing Windows

## Evaluating for BPSD:

1. Start with primary symptom of concern, then screen for other BPSD.
2. Search for **medical causes, and rule out delirium**
3. Review of list of **medications**, and screen for **substance use**
4. Explore **psychological, social, environmental, cultural & spiritual** factors
5. Explore **caregiver** factors, and screen for depression & abuse
6. Develop initial formulation

Walaszek *Behavioral & Psychological Symptoms of Dementia* 2019.

## D-I-C-E Approach (Describe-Investigate-Create-Evaluate)

**Describe:** caregiver describes problematic behavior: context, environment, patient perspective, degree of distress

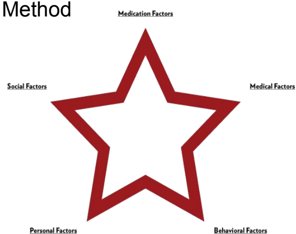
**Investigate:** provider investigates possible causes: meds, pain, medical conditions, psychiatric comorbidity, sleep, sensory changes, loss of control, boredom

**Create:** caregiver and team collaborate to create and implement treatment plan: respond to physical problems, strategize behavioral interventions

**Evaluate:** provider evaluates whether interventions have been implemented, and have been safe and effective

Kales et al., *JAGS* 2014;62:762–769.

## Wisconsin Star Method




## Managing BPSD:

1. Is there imminent risk of harm to the patient or others?
   - yes: activate emergency medical system
   - no: proceed with next step
2. Treat underlying medical causes, including pain-consider scheduled acetaminophen
3. Taper & discontinue offending medications or substances
4. Are BPSD severely distressing to patient or potentially dangerous to patients or others?
   - no: caregiver, behavioral and environmental interventions
   - yes: in addition to the above, consider prescription psychotropic medication

Walaszek *Behavioral & Psychological Symptoms of Dementia* 2019.

## Non-pharmacological methods

- Structured activities
- Music therapy
- Reminiscence therapy
- Formal training programs for caregivers (DICE)
- Supporting family caregivers
- Exercise
- Pet therapy
- Simulated presence therapy (record loved one and playback over stereo)

## Is patient taking psychotropic medication for BPSD?

- yes: maximize current medication; if already at recommended dose, switch to another medication
- No, therapeutic options by symptom:
  - **agitation**: SSRI, trazodone, atypical antipsychotic, prazosin
  - **psychosis**: antipsychotic
  - **Lewy body disease**: donepezil, clozapine, pimavanserin
  - **depression/anxiety:** SSRI
  - **apathy**: methylphenidate
  - **pathological laughing/crying:** dextromethorphan

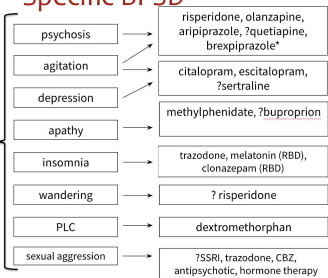
## For all medication recommendations:

- obtain informed consent (usually from proxy decision maker)
- titrate at appropriate pace to appropriate dose
- monitor outcome–if no improvement discontinue
- continue non-pharmacological interventions
- consider eventually discontinuing, especially antipsychotics

Walaszek *Behavioral & Psychological Symptoms of Dementia* 2019.

## Specific BPSD

Implement caregiver, behavioral & environmental interventions first; if ineffective and BPSD dangerous or distressing…




Walaszek *Behavioral & Psychological Symptoms of Dementia* 2019. PLC = pathological laughing & crying, RBD = REM sleep behavior disorder, CBZ = carbamazepine. * FDA-approved for agitation in Alzheimer's disease.

# Aripiprazole vs Brexpiprazole

Partial Agonist[a]

Antagonist[b]

| Receptor Affinity (nM) | $D_2$ | $D_3$ | $D_4$ | 5-$HT_{1A}$ | 5-$HT_{2A}$ | 5-$HT_{2C}$ | 5-$HT_7$ | $\alpha_1$ | $H_1$ |
|---|---|---|---|---|---|---|---|---|---|
| **Aripiprazole** | 0.34[a] | 0.8 | 44 | 1.7[a] | 3.4[b] | 15 | 39 | 57 | 61 |
| **Brexpiprazole** | 0.30[a] | 1.1[a] | | 0.12[a] | 0.47[b] | 34 | 3.7[b] | | 19 |

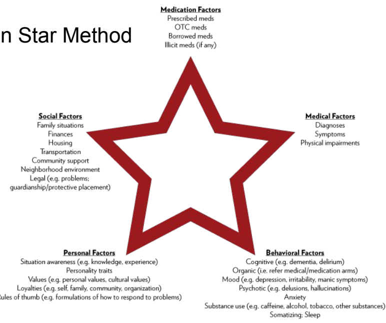
| Receptor Affinity (nM) | SERT | M1 | 5-$HT_{2B}$ | $\alpha_{1A}$ | $\alpha_{1B}$ | $\alpha_{1D}$ | $\alpha_{2C}$ | | |
|---|---|---|---|---|---|---|---|---|---|
| **Aripiprazole** | 98 | >1000 | | | | | | | |
| **Brexpiprazole** | | >1000 | 1.9[b] | 3.8[b] | 0.17[b] | 2.6[b] | 0.59[b] | | |

Both metabolized by CYP3A4 and CYP2D6

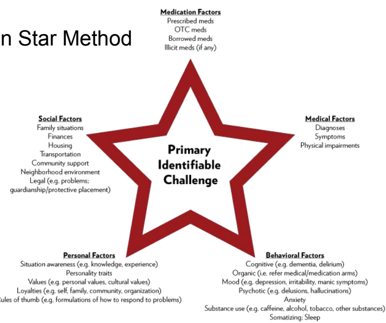
Half Lives:

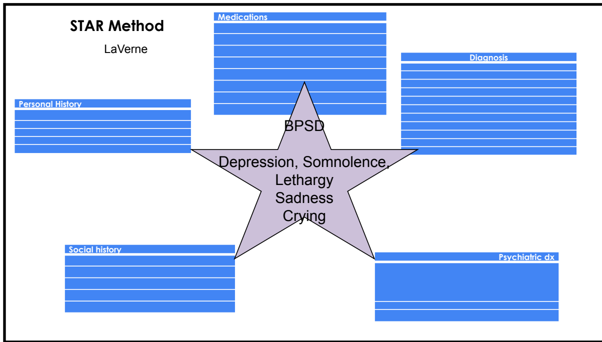
- Aripiprazole: 75 hours
  - CYP2D6 poor metabolizers: 146 hours
- Dehydro-aripiprazole (40% of AUC exposure): 94 hours
- Brexpiprazole: 91 hours
- DM-3411 (Brexpiprazole major metabolite, 23-48% of AUC exposure): 86 hours

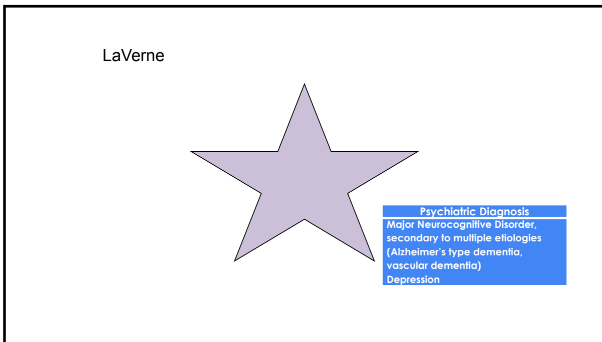
# Wisconsin Star Method

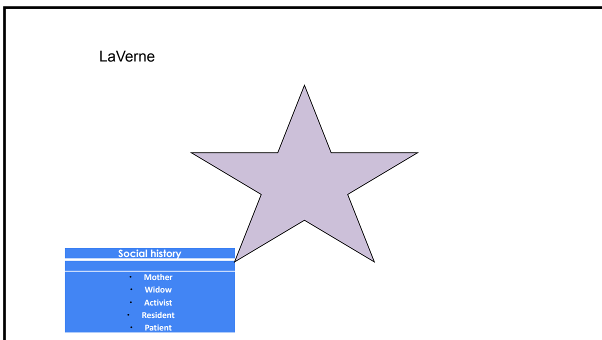



# Wisconsin Star Method




STAR Method
LaVerne
Medications
Diagnosis
Personal History
BPSD
Depression, Somnolence,
Lethargy
Sadness
Crying
Social history
Psychiatric dx

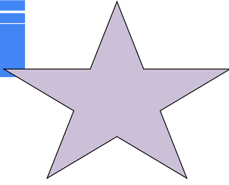

LaVerne
Psychiatric Diagnosis
Major Neurocognitive Disorder, secondary to multiple etiologies (Alzheimer's type dementia, vascular dementia)
Depression


LaVerne
Social history
Mother
Widow
Activist
Resident
Patient

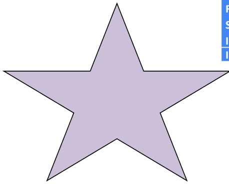
LaVerne

Personal History

Falls & Mental Decline
Functional decline in ADL's
Extensive Assist



LaVerne



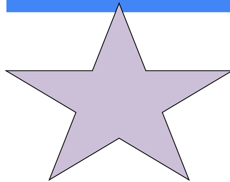
Medical Diagnosis

Hashimoto's Thyroiditis
Recurrent UTIs
Severe Vision and Hearing Impairment
Incontinence of Bladder

LaVerne

Medications

Scheduled
Hashimoto's: Levothyroxine
Depression: Celexa (Citalopram)
Urinary Incontinence: Vesicare (oxybutynin)
As Needed for Pain: Acetaminophen / Ibuprofen



**References:**

Walaszek, Art. Behavioral and Psychological Symptoms of Dementia. American Psychiatric Publications, 2019.

Wisconsin Geriatric Psychiatry Initiative. https://wgpi.wisc.edu/