Behavioral and Psychological Symptoms of Dementia (BPSD)

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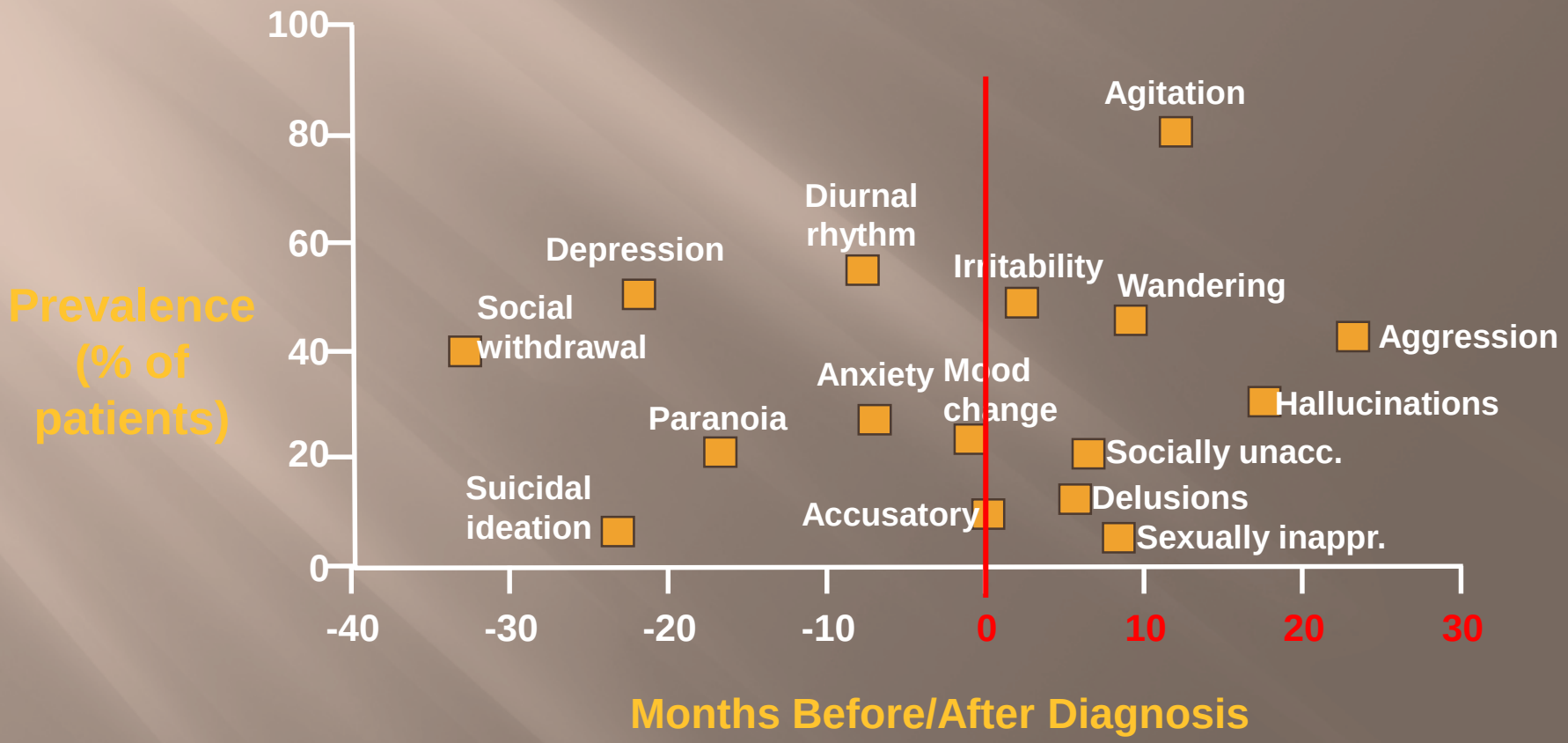
Introduction

- "Agitation" is a complex syndrome of behavior
- Behavior problem variability exists over the course of the day, with setting and between caregivers
- Behaviors are usually communicating distress due to unmet needs
- Behavior problems are a leading reason for placement outside of home or for a change in level of care

Introduction (cont)

- Problematic behaviors require the expertise of various practitioners and care providers involved
  - Long-term care staff may not have adequate training/ skills or resources for managing complex behaviors
  - Time constraints makes management difficult
- Systematic assessment important to understanding
- Behavioral disturbances/emergencies occur throughout the caregiving continuum

Peak Frequency of Behavioral Symptoms as Alzheimer's Disease Progresses



Jost BC, Grossberg GT. J Am Geriatr Soc. 1996;44:1078-1081.

Prevalence of Behavioral Disturbance in Dementia

Behavior	Range (%)	Median (%)
Global agitation	10-90	44
Wandering	0-50	18
Verbal aggression	11-51	24
Physical aggression	0-46	14
Resistive/uncooperative	27-65	44
Withdrawal/passive mood	21-88	61
Disturbed affect/mood	0-86	19
Disturbed ideation	10-73	33.5
Altered perception		
Hallucinations	21-49	28
Misperceptions	1-49	23

Tariot P, J Clin Psychiatry. 1996;57(suppl 14):21-29. Review article

Presentation of Agitation and Aggression

- Physically nonaggressive
  - Pacing
  - Restlessness
  - Inappropriate robing/disrobing
  - Inappropriate handling of objects
- Physically aggressive
  - Hitting
  - Kicking
  - Biting
  - Scratching
  - Pushing
  - Spitting

Cohen-Mansfield J, Deutsch LH. Semin Clin Neuropsychiatry. 1996;1:325-339.

Tariot P. J Clin Psychiatry. 1999;60(suppl 8):11-20.

Presentation of Agitation and Aggression (cont)

- Verbally nonaggressive
  - Complaining
  - Attention seeking
  - Repeated questions/phrases
  - Screaming
- Verbally aggressive
  - Threats
  - Obscenities
  - Accusations
  - Name calling

Cohen-Mansfield J, Deutsch LH. Semin Clin Neuropsychiatry. 1996;1:325-339.

Cohen-Mansfield J, Werner P. Int J Geriatr Psychiatry. 1997;12:1079-1091.

Disturbing versus Disturbed Behavior

- Disturbing behaviors bother those around them
  - Wandering
  - Inappropriate voiding
  - Hording trash, other items
  - Calling out
- Disturbing behaviors generally do not require (or respond to) drug therapy

Disturbed vs Disturbing (cont)

- Disturbed behavior
  - Psychopathology
  - Behavioral emergencies
- Disturbed behaviors generally require active intervention or some kind of drug therapy

“Sundowning”

- Most common definition: escalation of behaviors in afternoon and evening
  - Increase in motor/verbal activity
  - Increased resistiveness to care
- Environmental factors – change in caregiver, light, etc
- Progressively more stressed as day goes on

Etiology of Agitation

- Environmental
  - Acuity of the surrounding milieu
  - “Personality” of caregiver/facility
  - Appropriate level of care/placement
- Medical
  - Infection, metabolic
  - Medications
  - Pain, constipation

Etiology of Agitation (cont)

- Psychiatric
  - Depression (“grumpy old men…”)
  - Anxiety
  - Psychosis
  - Personality pathology
  - Dementia
- Multifactorial
  - Literally “a little bit o’this and a little bit o’that”

Key Concepts

- Never compromise on safety
- Behavioral emergencies can be dangerous
- Protect the patient, staff and caregivers

Approaches to Behavior Problems

- Identify associated factors
  - Co-morbid medical illness
    - Exacerbation of chronic illnesses
    - New onset (UTI, pneumonia, constipation)
    - Review current medication list
  - Co-morbid psychiatric illness
- Understand “meaning” of behavior
  - We must fit into their world as they leave the reality of the world around them
  - Knowledge of person as an individual (likes, dislikes, etc)

Approaches (cont)

- Approach agitation as a team
  - Each member has their own area of expertise/observation (RN, aides, dietary staff, housekeeping, etc)

Approaches (cont)

- Geriatric “syndromes”
  - Sleep
  - Appetite
  - Bowels
  - Falls
  - Pain
  - Hearing
  - Vision
- Abnormalities in any of these will complicate assessment/treatment of behavior problems

Systematic Observation of Behavior

- Behavioral monitoring
- Identify target behavior in an objective manner
- Observe for 3-5 days
- Document Document Document

Behavioral Monitoring/Documentation

- What?
- Where?
- When?
- Others present?
- What reduced behavior?
- Medications administered? Effect?
- Simple flowsheets can be effective
  - PIECES behavior monitoring form

Behavioral Monitoring/Documentation (cont)

- Keep it simple so it is used but relevant so meaningful information is obtained
- Patterns of behavior
- Triggers of behavior
- Attention to nonverbal communication

Behavioral Monitoring/Documentation (cont)

- My Rule: If it isn't documented, it didn't happen
  - Often hard to find caregivers/staff who know about the situation/behavior
  - Our memory of events/behaviors is fallible
  - After the fact, the behavior may no longer seem important as something/someone else has taken its place

Decision-making

- Assess Acuity
  - Annoying vs. dangerous
- When to intervene
  - Need a goal (target behavior) in mind
  - As early as possible
- Where to intervene
  - Home
  - Nursing home/assisted care
  - Psychiatric hospitalization

Interventions

- Support for comfort/quality of life
- Optimizing environment
- Support for autonomy & dignity
- Alter caregiver communication
  - Fewer words, more demonstration/gestures
- Avoid restraints and only then as a last resort
  - Will escalate behaviors
  - Increase risk of morbidity and mortality

Parker & Miles, JAGS, 1997(797-802)

Interventions (cont)

- Assess environmental factors
  - Temperature
  - Hunger/thirst
  - Stimulus level
  - Avoid confrontation
  - Orientation maneuvers
  - Respite for caregivers
  - Staffing issues
  - Non-taxing tasks
    - loss of cognitive abilities → frustration intolerance, disorganized thinking, inability to anticipate consequences → AGITATION

ADL Interventions

- Avoid rigid routines
- Base schedule/methods on previous preferences
- Slow down
- Allow resident to participate
- Consider analgesics if pain is suspected
- Avoid caregiver overcompensation
- Scale help to abilities
- Simplify clothing
  - Button-ups vs pull-overs
  - Not matching and three layers is OK

Bathing Interventions

- Weekly bath may be sufficient

(tongue in cheek – no one has died yet from not showering)

- Previous experience/preference for shower or bath
- Rinseless soaps and shampoos
- Bed baths/wash cloth at the sink
- Lack of warmth key factor
- Pain important in resistance
- Help to provide and protect modesty
- Electric razor vs. blade
- “Bathing Without a Battle” Barrick & Rader, et al, 2008

Sleep Interventions

- Alter bedtime
  - “Night owl” vs “morning person”
- Increase daytime activity
- Comfort/pain
- Assess for depression/mania/psychosis
- Use body pillows
- Strive for consistent awake in the morning time

Discussion of any medication is Off-Label

No FDA or Health Canada approved drug therapy for agitation

Pharmacologic Intervention

- There is no “magic bullet”
- Most behavior problems are multifactorial
- The most effective interventions do not involve medications
- Increased risk of side-effects
  - Age, medical illness
  - Multiple medications
- Complete elimination of problem behavior(s) is likely not possible

Pharmacology Principles (cont)

- Target medications towards the “predominate” symptom
- Start low, go slow…but go!
- Have an endpoint in mind
- All psychotropic medications were developed in young, healthy, neurologically intact people
  - Exception are the anti-dementia medications
  - There is some data supporting these medications for behavioral disturbances

Pharmacology Principles (cont)

- The evidence for efficacy of psychoactive medications is limited
- The difference between active drug and placebo is usually small
- Be willing to stop the medication if not effective
- Be willing to say “no” to requests for symptoms that are poorly defined or described by care staff (what is the objective evidence)
- Continue documentation/flow sheets
- Assess for adverse effects routinely

Pharmacology Principles (cont)

- If effective, continue for weeks to months, taper and re-evaluate
- If ineffective, taper and re-evaluate; consider second agent trial
- Remember “disturbing” behaviors generally do not respond
- Medications do not always work --and--
- Medications frequently do not work

"Metaphors" Matched to Potentially Relevant Medication Classes

- Disturbed affect/mood
  - Antidepressants
- Anxiety
  - Antidepressants
  - Anxiolytics
- Psychosis
  - Atypical antipsychotics
  - High-potency typical antipsychotics
  - Cholinesterase inhibitors
- Agitation/aggression/mania
  - Mood stabilizers
  - Antidepressants
  - Anxiolytics
  - Antipsychotics
  - Cholinesterase inhibitors

Tariot P. J Clin Psychiatry. 1999;60(suppl 8):11-20.

Pharmacologic Options

- Do not forget:
  - Analgesics
  - Antibiotics
  - Laxatives
- Antidepressants
- Antipsychotics
- Mood stabilizers
- Other

Antipsychotics

- Improvement rate 18% greater than placebo -- modest effect
- Type does not matter (1st or 2nd generation)
- Low doses usually work
- Use side effect profiles as guidelines
- Avoid low/mid-potency 1st generation antipsychotics due to anticholinergic side-effects (chlorpromazine, loxapine etc)

Wragg RE, Jeste DV. Psychiatr Clin North Am. 1988;11:195-213.
Schneider LS et al. J Am Geriatr Soc. 1990;38:553-563.

Antipsychotics (cont)

- Side effects may be limiting
  - Extrapyramidal side effects
  - Sedation
  - Falls
- Increasing scrutiny of the use of antipsychotics in long-term care facilities (starting to follow in the footsteps of US regulation)

Adverse Events Associated With Antipsychotics

- Extrapyramidal side effects
  - Parkinsonism
  - Dystonia
  - Akathisia
  - Tardive dyskinesia

Wragg RE, Jeste DV. Psychiatr Clin North Am. 1988;11:195-213.

Adverse Events Associated With Antipsychotics (cont)

- Anticholinergic side-effects
- Cardiovascular
  - Orthostatic hypotension
  - Tachycardia
  - Conduction delays (prolonged QTc)
- Falls/fractures
- Sedation
- Miscellaneous
  - Agranulocytosis
  - Weight gain
  - Seizures
  - Increased CVAE risk

Wragg RE, Jeste DV. Psychiatr Clin North Am. 1988;11:195-213.

Adverse Events Associated With Antipsychotics (cont)

- Increased risk of cerebral vascular adverse events (CVAE) – approximate 2 fold risk compared to placebo
- Increased morbidity and mortality compared to placebo
  - Sedation
  - Pulmonary disease
  - Benzodiazepines

Antipsychotic Dosing Options

- Little evidence base to guide treatment, but:
  - Haloperidol 0.25 – 5mg/d (DeDeyn, et al, 1999)
  - Risperidone 0.25-2mg/d (Katz, el al, 1999)
  - Olanzapine 2.5-10mg/d (Street, et al, 2001)
  - Quetiapine 25-150mg/d (Tariot, et al, 2000)
  - Aripiprazole 2-10mg/d (Breder, et al, 2004)
- Dosage adjustment every 5-7d
- Above are positive studies; also in literature are non-significant studies (compared to placebo or a comparator antipsychotic)

Antidepressants

- Avoid older tricyclics (amitriptyline, imipramine, etc)
- Falls are a concern
- The overall efficacy of antidepressants remains to be established
- Citalopram and trazodone have been shown effective in small studies
- CATIE-AD follow-up study showed “mild improvement” roughly equal to risperidone

(Nyth, 1990), (Simpson, 1986), (Pollack 2007)

Antidepressants (cont)

- Mirtazapine
  - 7.5-45mg/hs
  - More sedating than not
  - Weight gain is more myth than reality
- Trazodone
  - 12.5-250mg/d
  - May be sedating, though not consistently
  - Orthostatic hypotension

Antidepressants (cont)

- SSRI
  - Some studies show no benefit (sertraline) in depression in Alzheimer's Dementia (Banerjee, 2011)
  - Citalopram may benefit behavior problems (Leonpacher, et al, 2016)
    - 5-20mg/d (65y/o+)
    - Risk of prolonged QTc
  - Supportive data for sertraline, paroxetine (not fluoxetine)

Antidepressants (cont)

- Venlafaxine/duloxetine/vortioxetine
  - Very limited data
- Monoamine oxidase inhibitors
  - No data

Mood Stabilizers

- Divalproex (Alexopolis, 1998; Porsteinsson, 2001; Sival, 2002)
- Carbamazepine (Tariot, 1998)
- Lithium
- Gabapentin
  - Limited data to support efficacy

Other

- Cholinesterase inhibitors
  - Initial studies suggest improvement (? prevention) in problematic behaviors
  - Recent data suggests limited benefit (Rabins, et al, 2017)
  - Still reasonable to use by way of best practice
- Memantine
  - Some studies suggest improvement
  - Recent data suggests limited benefit (Rabins, et al, 2017)
- Prazosin
  - Small DB/PC study showed 1-6mg/d effective (Wang, et al, 2009)

Other (cont)

- Benzodiazepines
  - Usual risks of falls, confusion, oversedation, etc
  - Consider with anxiety, sleep disruption and motor tension
  - Most studies have been short-term
  - May be best used situation-specific, rather than routine

Other (cont)

- Opiates
- Dronabinol (USA) or Nabilone (Canada)
- Herbals (scented oils)
- Electroconvulsive Therapy
  - Most literature involves ECT for dementia with co-morbid depression/psychosis

    (Rao and Lyketsos –Int J Geriatr Psychiatry 2000)
    - Less experience with agitation/aggression alone

Inappropriate Drugs

- Long-acting benzodiazepines (diazepam, etc)
- Anticholinergic medications
  - Diphenhydramine
  - Amitriptyline
  - Chlorpromazine
- Cumulative effects of other anticholinergic medications (L. Tune)
  - Warfarin
  - Cimetidine
  - Digoxin
  - etc

Prescribing Recap

- Deprescribing is as artful as prescribing
- If lots of medications do not help, start discontinuing medications
  - “Can they be any worse without medications?”
  - Example: deprescribing in palliative care occasionally leads to improvement in cognition/function/ability
  - Are they experiencing interactive side effects?

Prescribing Recap (cont)

- Document and communicate
- Assess and reassess expectations of behavioral and medication interventions
- Role of the consultant
- Communication is paramount

Prescribing Recap (cont)

- Avoid the fear of medication change
  - Lack of inertia for change (culture of “same”)
  - Data supports medication reduction/discontinuation as behavior problems frequently are dynamic
- Avoid the belief that a medication will help to alleviate behavior problems at the expense of utilizing psycho-social/behavioral approaches

HERE IS HOW NOT TO DO IT…

Case Report

- 73 y/o female
- Briefly in the emergency room for minor respiratory illness
- Known behavior problems related to mild-moderate probable Alzheimer's Dementia
- Urgent referral to inpatient geropsychiatry unit

Ord#	Drug/Dose Route.Comments	Freq	Int	Start	Stop	Shift 1	Shift 2	Shift 3
*****	SCHEDULED SOLUTION ORDERS *****							
00 (1) JDC	LANZAPINE 5 MG TABLET (ZYPREXA) Dose: 5 MG/2 TABLET [ORAL] 2TABS=5MG	QAM		01/29 0800		0800 aw	DC	
0002 (1) JDC	OLANZAPINE 10 MG TABLET (ZYPREXA) Dose: 10 MG/4 TABLET [ORAL] 4 TABS=10MG	QPM		01/29 2000		----------	2000 DC	
0005 (4) JDC	ALBUTEROL-IPRATROPIUM SOLUTION (DUONEB) Dose: 3 ML [INHL] FOR NEBULIZER TREATMENT	QIDRT		01/29 0700		0700 1100 JW SC	1500 1900 RT RT	
0007 JDC	METHYLPREDNISOLONE SOD 60 MG INJECTION (SOLU-MEDROL) Dose: 60 MG/0.96 ML [IV]	Q6H		01/29 0600		1200 WJ	1800 CD	0000 0600 BAB BAB
0008 JDC	CEFTRIAXONE 1 G/1 INJECTION NORMAL SALINE ADV. 100 ML IV ADMIXTURE FEE 1 INJECTION [IV]	Q24H		01/28 2000			2000/CD	
0014 JDC	SODIUM CHLORIDE INJ CARTRIDGE (SODIUM CHLORIDE) Dose: 2 ML [IV]	Q8H		01/29 0800		0800 IV Runs aw	1600 IV Running/CD	0000 IV Running
aw 1-29	Zithromax 500mg IV	QD		1/29		1030 aw		
1-29 WJ	Continuous Neb 15mg/Hr					CB JW		
	Continuous Neb 5mg/hr					1100 SC 1230 BB	2022 RT	
	Albuterol 2.5mg alb	q2h				1230 SC	1500 RT See par Page	

OrdRN	STAT MEDICATION	AdmRN	TIME
aw	Haldol 5mg IM RD	1105 aw	
DD	Zosyn 10mgs IV	RD	2240

OrdRN	STAT MEDICATION	AdmRN	TIME
aw	Tamictal 100mg PO x1	aw	1415
aw	Zyprexa 20mg PO x1	aw	1445

Site Code: R-Right L-Left D-Deltoid G-Gluteal T-Thigh AB-Abdomen ↓-Lower ↑-Upper M-Mid

KEY TO UNADMINISTERED DOSES: R-REFUSED C-CONDITION OF PATIENT A-ABSENT DO-DOCTOR'S ORDER

aw Amitriptyline

C[illegible]l Information:
A[illegible]LY Height: 175.3cm Weight: 104.2(66.20)kg BSA: 2.19sq m
Dx: CHR AIRWAY OBSTRUCT NEC Alg: +FERROU/SULFA
Adm: 01/28/03 DOB: 09/17/30 Dr:
Sex: F A0302800100
200-2

A0109284

MAR Verified by: WJ (RN) LPN 1/29/03 0158

Page: 1 (more pages follow...)
Covers Doses from 01/29/03 07:00 to 01/30/03 06:59

Routine

MEDICATION ADMINISTRATION RECORD

Ord#	Drug/Dose Route,Comments	Freq	Int	Start	Stop	Shift 1	Shift 2	Shift 3
	***** PRN SOLUTION ORDERS *****							
JDC	LORAZEPAM 1 MG INJECTION (ATIVAN) Dose: 1 MG/0.5 ML [IV]	Q4HP	PRN	01/29 0700		.5mg 0850 0715 .5mg 0930 1130	1mg 2153 CD	.5mg 0.5mg .5mg 2400 0030 0100 BJB BJB BJB 0330 0520 .5mg BJB BJB
0004 (4) JDC	LORAZEPAM 1 MG TABLET (LORAZEPAM) Dose: 1 MG/1 TABLET [ORAL]	Q4HP	PRN	01/29 0700				
0006 (4) JDC	ALBUTEROL 0.083 % SOLUTION (ALBUTEROL SULFATE INHL) Dose: 0.083 %/3 ML [INHL] FOR NEBULIZER TREATMENT	PRN	PRN	01/29 0700			1500	2400 BJB
0009 (D) JDC	MORPHINE SULFATE 2-4 MG INJ CARTRIDGE (MORPHINE SULFATE) Dose: 2-4 MG/1-2 ML [IV] MINIMUM B/P 90 & RR 12	Q5-10	PRN	01/29 0700	02/03 0659			
0010 (D) JDC	NITROGLYCERIN 0.4 MG TABLET SUBL (NITROSTAT) Dose: 0.4 MG/1 TABLET SUBL [SL] FOR CHEST PAIN IN CARDIAC PATIENT	PRN	PRN	01/29 0700				
0011 (4) JDC	ACETAMINOPHEN 650 MG TABLET (TYLENOL) Dose: 650 MG/2 TABLET [ORAL]	QIDP	PRN	01/29 0700				
0012 (D) JDC	MAGN-ALUM-SIMETH SUSPENSION (MAALOX PLUS LEMON SWISS CREME) Dose: 30 ML [ORAL]	PRN	PRN	01/29 0700				
0013 (1) JDC	DOCUSATE SODIUM 100 MG CAPSULE LF (DOCUSATE SODIUM) Dose: 100 MG/1 CAPSULE [ORAL] MAY GIVE UP TO 2 CAPS BID PRN	QDP	PRN	01/29 0700				
0015 (D) JDC	CLOTRIMAZOLE CREAM (CLOTRIMAZOLE) Dose: 30 GM [TOP] TO SKIN RASH	PRN	PRN	01/28 2330		08		
	Haldol 1-5mg IV PRN					3mg 2137 2239 2mg 2225 CD	1mg 1627 1652 1709 1724 1738 1843 2056 CD	5mg 1748 2020 2058 CD 2250 CD 5mg 2325 LW

See other page 60 mg

OrdRN	STAT MEDICATION	AdmRN	TIME	OrdRN	STAT MEDICATION	AdmRN	TIME

Site Code: R-Right L-Left D-Deltoid G-Gluteal T-Thigh AB-Abdomen ↓-Lower ↑-Upper M-Mid

KEY TO UNADMINISTERED DOSES: R-REFUSED C-CONDITION OF PATIENT A-ABSENT DO-DOCTOR'S ORDER

MAR Verified by: RN/LPN

Y Vital Information:
TR AIP72Y Height: 175.3cm Weight: 104.2(66.20)kg BSA: 2.19sq m
Dx?CHR AIRWAY OBSTRUCT NEC Alg: +FERROU/SULFA
Adm: 01/28/03 DOB: 09/17/30 Dr: ---
Sex: F
200-2

A0109284

PRN

Page: 2 (End of MAR)
Covers Doses from 01/29/03 07:00 to 01/30/03 06:59

MEDICATION ADMINISTRATION RECOR

Ord#	Drug/Dose Route,Comments	Freq	Int	Start	Stop	Shift 1	Shift 2	Shift 3
	Haldol 5mg IV PRN mod agitation	q1°						0010 BJB 0330 BJB 0050 BJB 0430 BJB 0230 BJB 0600 BJB
	Haldol 10mg IV PRN Severe agitation	q1°						0238 BJB
	Haldol 2mg IV PRN mild agitation	q1°						

OrdRN	STAT MEDICATION	AdmRN	TIME	OrdRN	STAT MEDICATION	AdmRN	TIME

Site Code: R-Right L-Left D-Deltoid G-Gluteal T-Thigh AB-Abdomen
↓-Lower ↑-Upper M-Mid

KEY TO UNADMINISTERED DOSES:
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[redacted] Information:
A[redacted]Y Height: 175.3cm Weight: 104.2(66.20)kg BSA: 2.19sq m
Dx: CHR AIRWAY OBSTRUCT NEC Alg: +FERROU/SULFA
Adm: 01/28/03 DOB: 09/17/30 Dr:
Sex: F A0302800100
200-2

A0109284

MAR Verified by:
BJB RN/LPN
1-29-03 2330

Page:
Covers Doses from 01/29/03 07:00 to 01/30/03 06:59

PRN

MEDICATION ADMINISTRATION RECORD

24-hour Summary

- 73 y/o female
- Haloperidol 105mg IV
- Olanzapine 25mg po
- Lamotrigine 100mg po
- Lorazepam 5.5mg IV
- Methylprednisolone 240mg IV

(equivalent prednisone 300mg)

Questions/discussion