

Pharmacotherapy of Anxiety Disorders (GAD, Panic, & SAD)

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Declaration of Interests

- **Employed**
 - ▶ **Clinical Associate Professor**
College of Pharmacy
The University of Texas at Austin
- **Appointed**
 - ▶ **Clinical Pharmacologist**
San Antonio State Hospital
Texas Department of State Health Services
 - ▶ **Adjoint Associate Professor**
Pharmacotherapy Education and Research Center, School of Medicine
UT Health Science Center San Antonio
- **Speakers Bureau or Consultant**
 - ▶ **Actavis**
 - ▶ **Jazz**
 - ▶ **Otsuka**
 - ▶ **Sunovion**
 - ▶ **Several professional organizations**
- **College of Psychiatric and Neurologic Pharmacists Foundation**
 - ▶ **Board of Directors**
- **College of Psychiatric and Neurologic Pharmacists**
 - ▶ **Business Development Council**
- **Expert witness on both defendant and plaintiff sides**



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Objectives

At the conclusion of this activity, the pharmacist participant will be able to:

Identify the different types of anxiety disorders.

Describe the agents that have long-term effectiveness for each type of anxiety disorder.

Advocate for use of the most effective and least toxic pharmacotherapy.

At the conclusion of this activity, the technician participant will be able to:

List the different types of anxiety disorders.

List agents used to treat anxiety disorder.

Identify the most effect and least toxic agents for treatment of anxiety disorder.

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Clinical Presentation of Generalized Anxiety Disorder

Psychological

- Anxiety
- Worries
- Keyed Up
- On Edge

Cognitive

- Concentration
- Blank Mind

Physical

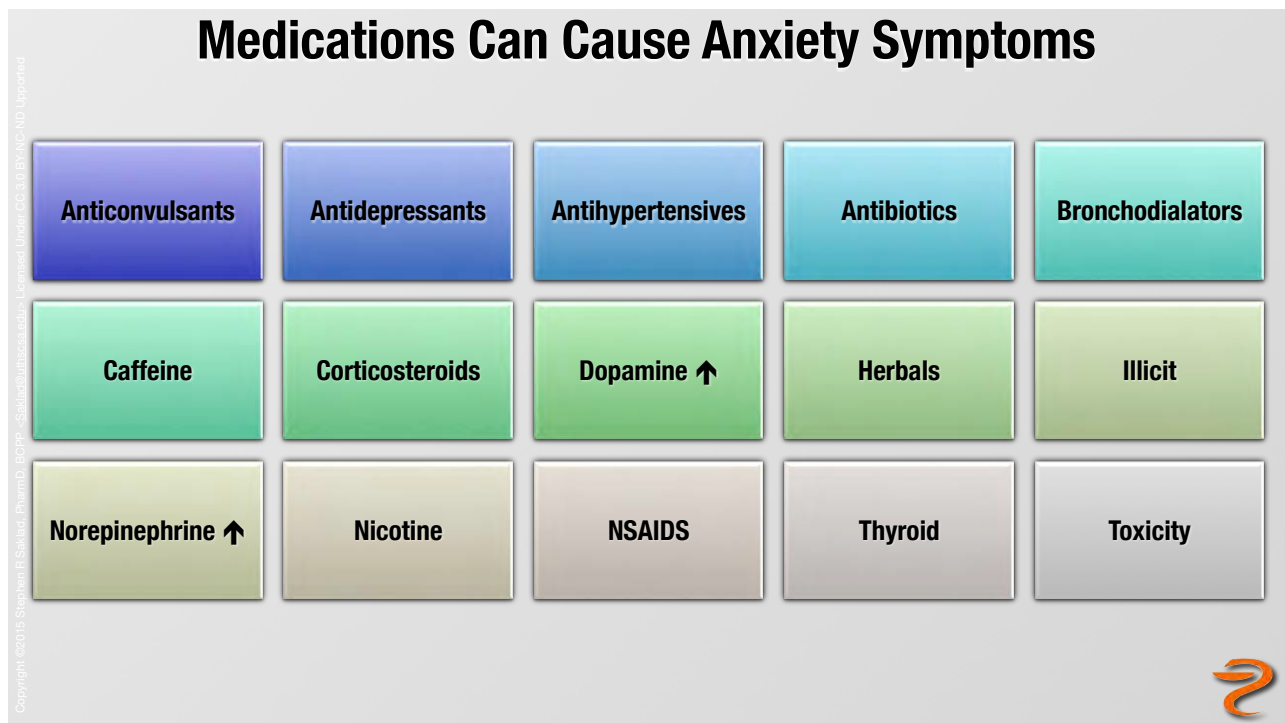
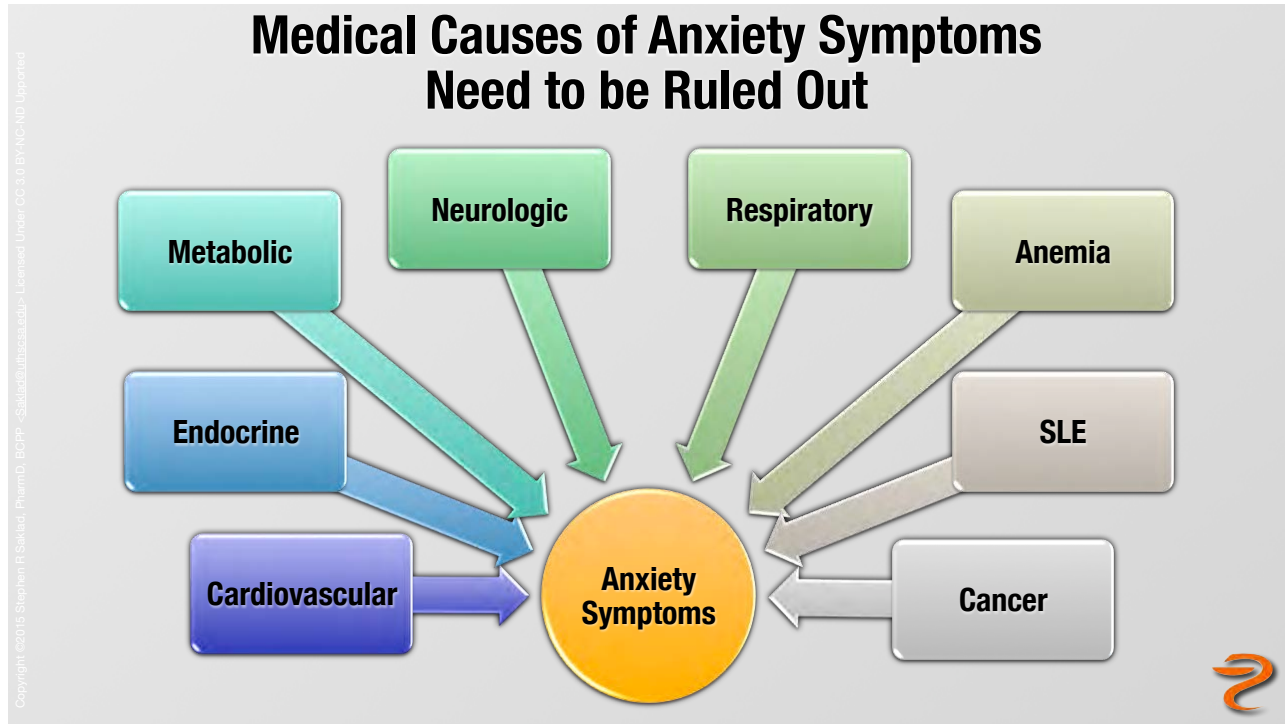
- Restlessness
- Fatigue / Sleep
- Muscle Tension
- Irritability

Function

- Social
- Family
- Work

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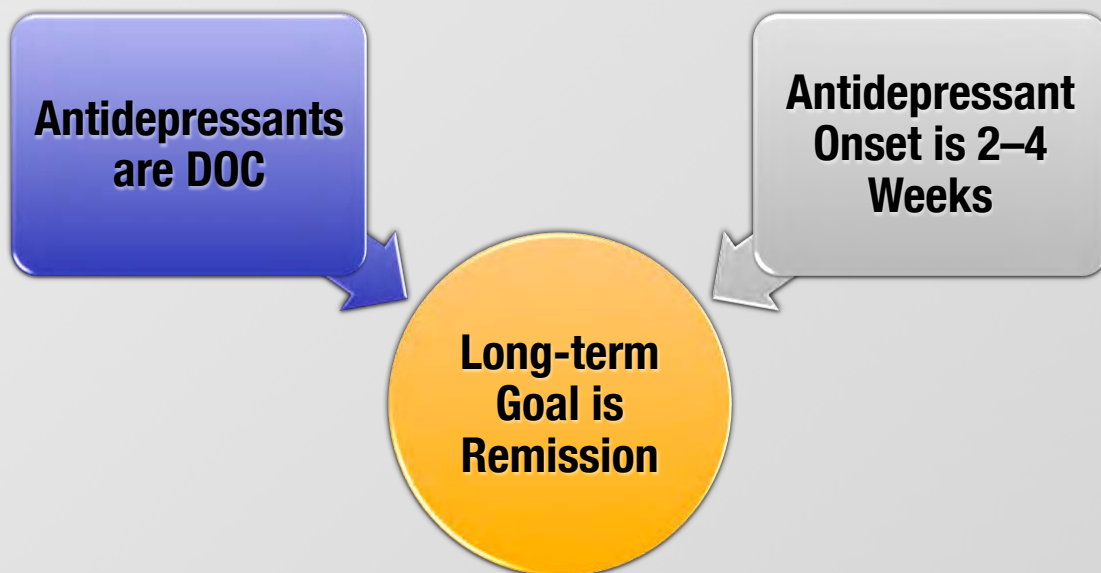
Pharmacotherapy Overview of Anxiety Disorders

	Drugs of Choice	2nd Tier	Alternatives
Generalized Anxiety Disorder	Duloxetine Escitalopram Paroxetine Sertraline Venlafaxine XR	Benzodiazepines Buspirone Imipramine	Hydroxyzine Pregabalin Quetiapine
Panic Disorder	SSRIs Venlafaxine XR	Alprazolam Citalopram Clomipramine Clonazepam Imipramine	Phenelzine
Social Anxiety Disorder	Escitalopram Fluvoxamine Paroxetine Sertraline VenlafaxineXR	Clonazepam Citalopram	Clonazepam Gabapentin Mirtazapine Phenelzine Pregabalin

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Generalized Anxiety Disorder

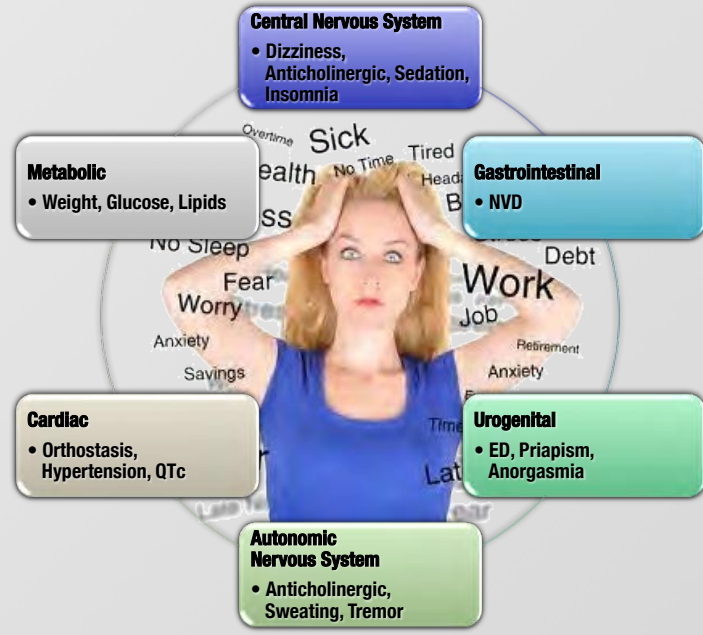


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Adverse Events Need to be Minimal Compared to Benefits

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Non-Benzodiazepines for GAD

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Generic	Common Brand Name (All Generic Except as Noted)	Dosage Range (mg/day)
Duloxetine	Cymbalta	60–120
Escitalopram	Lexapro	10–20
Imipramine	Tofranil	75–200
Paroxetine	Paxil, Pexeva	20–50
Sertraline	Zoloft	50–200
Venlafaxine XR	Effexor XR	275–225
Buspirone	BuSpar	15–60
Hydroxyzine	Vistaril, Atarax	200–400
Pregabalin	Lyrica (generic 2018)	150–600
Quetiapine	Seroquel (IR now; XR 2017)	150–300



Benzodiazepines for GAD

Generic	Common Brand Name (Generics Available)	Dosage Range (mg/day)	Equivalent Dose (mg/day)
Alprazolam	Xanax, Niravam (ODT)	0.75–4	0.5
	Xanax XR	1–10	
Chlordiazepoxide	Librium	25–400	10
Clonazepam	Klonopin, Klonopin Wafers (ODT)	1–4	0.25
Clorazepate	Tranxene, Tranxene SD	7.5–60	7.5
Diazepam	Valium	2–40	5
Lorazepam	Ativan	0.5–10	1
Oxazepam	Serax	30–120	15

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Pharmacokinetics of the Benzodiazepines

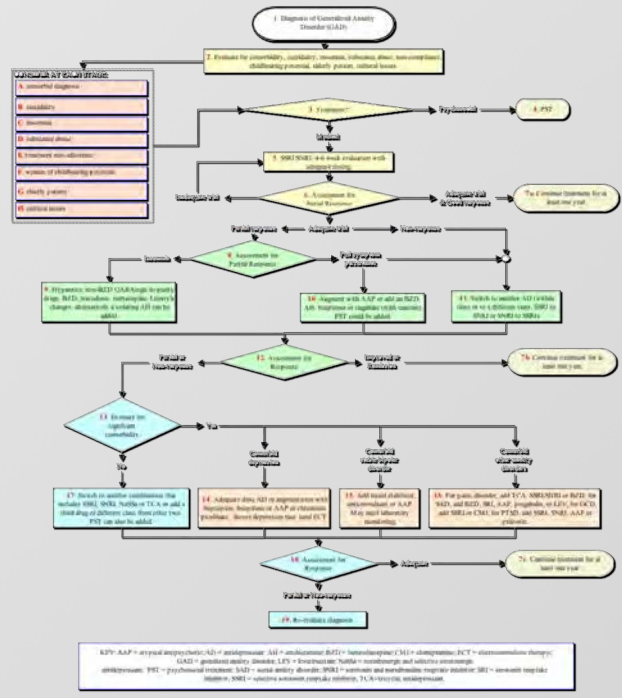
Generic	Tmax (hr)	t½	Metabolism
Alprazolam	1–2	12–15	Oxidation
Chlordiazepoxide	1–4	5–30	N-Dealkylation, Oxidation
Clonazepam	1–4	30–40	Nitroreduction
Clorazepate	1–2	20–80	Oxidation
Diazepam	0.5–2	20–80	Oxidation
Lorazepam	2–4	10–20	Glucuronidation
Oxazepam	2–4	5–20	Glucuronidation

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Algorithm for Treatment of Generalized Anxiety Disorder

(See End of Handout)

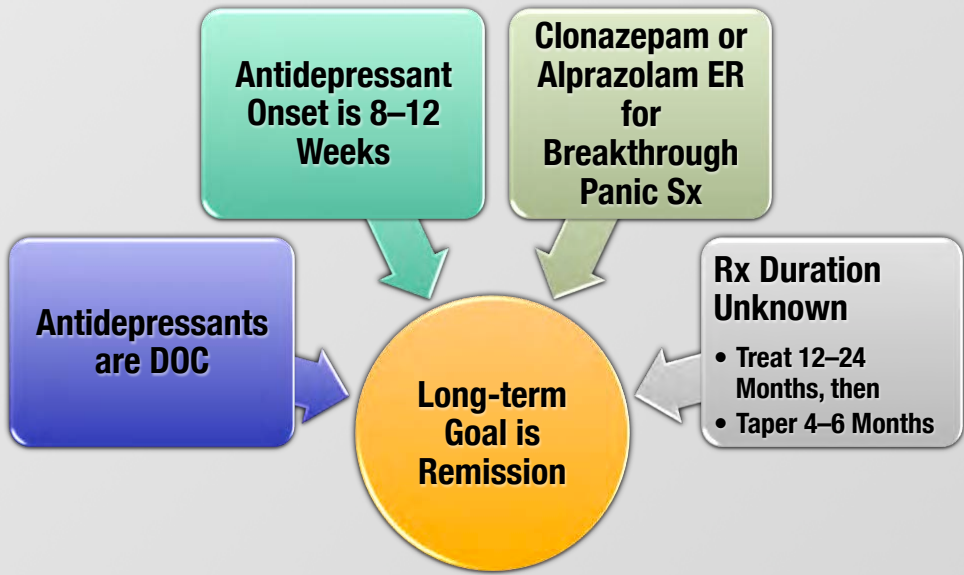


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Panic Disorder



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Clinical Presentation of Panic Disorder

Psychological

- Depersonalization
- Derealization
- Fear of
 - Losing Control
 - Going Crazy
 - Dying

Physical

- Abdominal Distress
- Chest Pain
- Chills
- Dizziness
- Feeling of Choking
- Hot Flushes
- Nausea
- Paresthesias
- Palpitations
- Shortness of Breath
- Sweating
- Tachycardia
- Tremor

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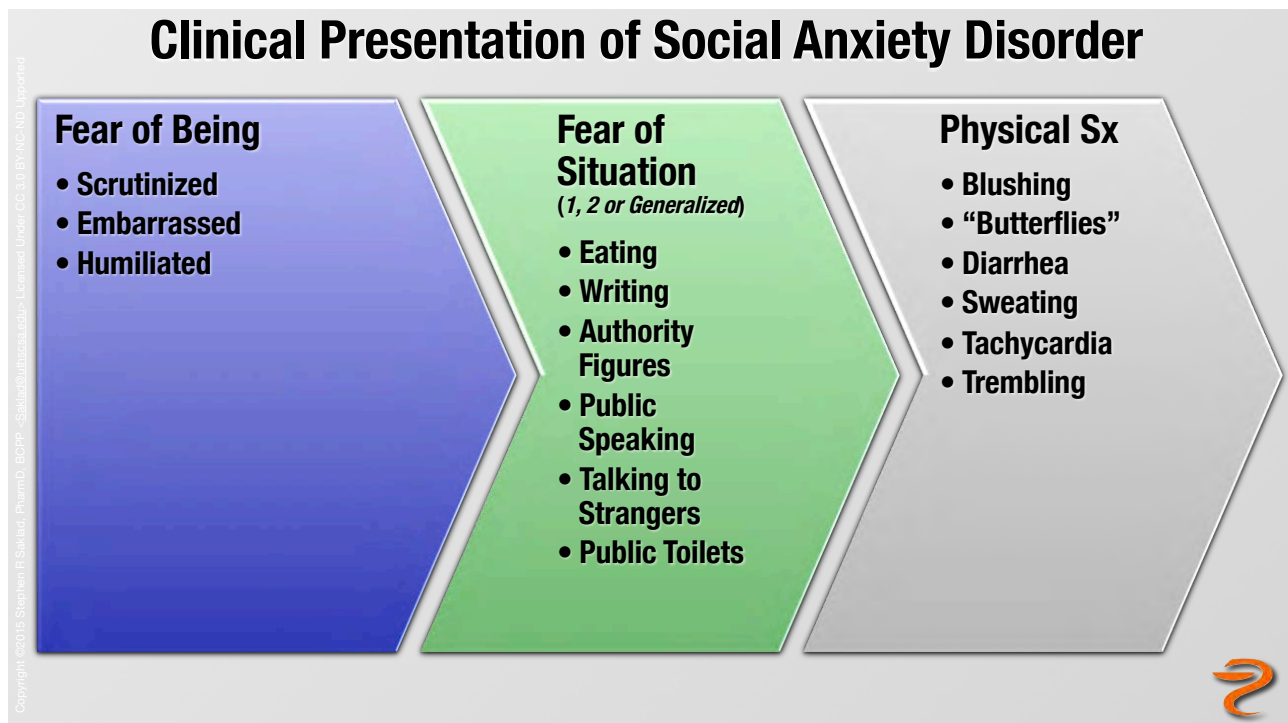
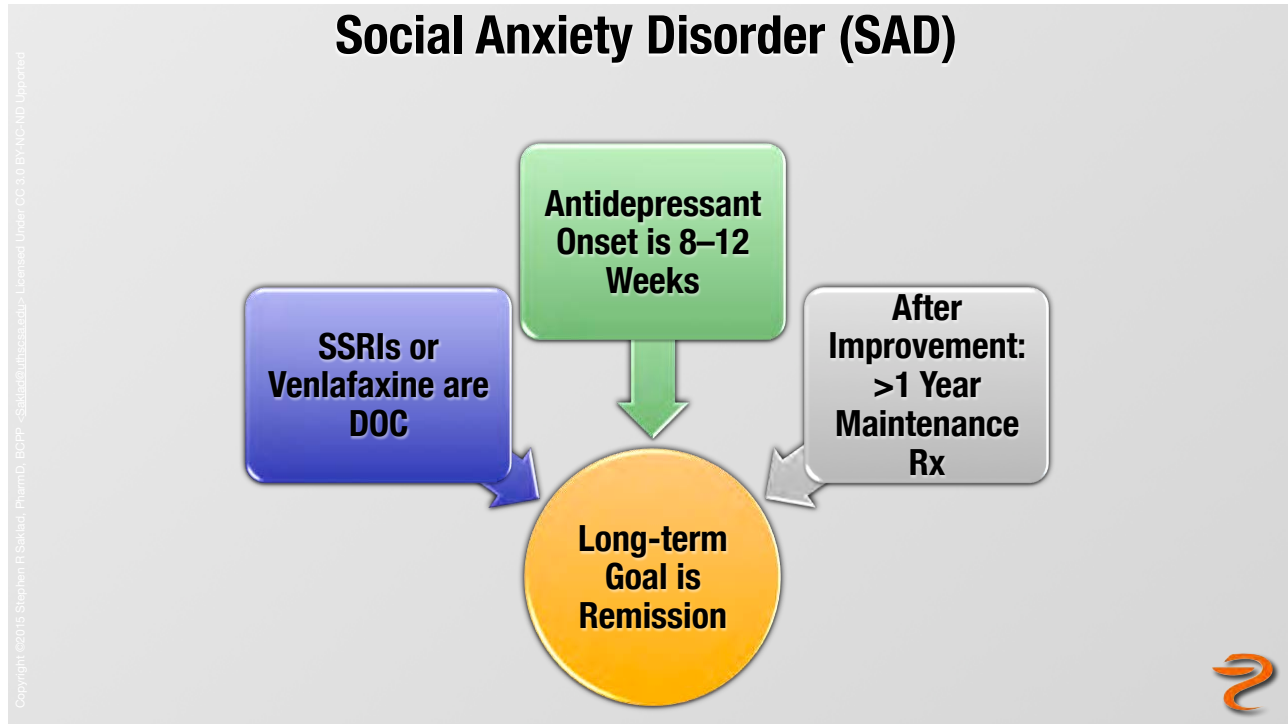


Pharmacotherapy of Panic Disorder

Generic	Common Brand Name	Starting Dose (mg/day)	Dosage Range (mg/day)
Citalopram	Celexa	10	20–40
Escitalopram	Lexapro	5	10–20
Fluoxetine	Prozac	5	10–30
Fluvoxamine	Luvox	25	100–300
Paroxetine	Paxil, Pexeva	10	20–60
	Paxil CR	12.5	25–75
Sertraline	Zoloft	25	50–200
Venlafaxine XR	Effexor XR	37.5	75–225
Alprazolam	Xanax	0.75 (0.25 TID)	4–10
	Xanax XR	0.5–1	1–10
Clonazepam	Klonopin	0.25 Daily or 0.25 BID	1–4
Diazepam	Valium	6–15 (2–5 TID)	5–20
Lorazepam	Ativan	1.5–3 (0.5–1 TID)	2–8
Imipramine	Tofranil	10	75–250
Phenelzine	Nardil	15	45–90

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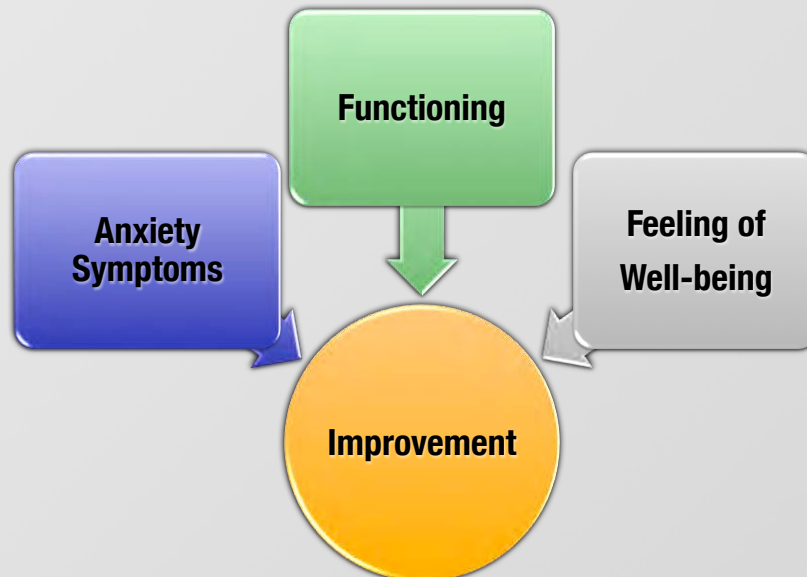
Pharmacotherapy of SAD

Generic	Common Brand Name	Starting Dose (mg/day)	Dosage Range (mg/day)
Citalopram	Celexa *	20	20–40
Escitalopram	Lexapro	5	10–20
Fluvoxamine CR	Luvox CR	100	100–300
Paroxetine	Paxil, *	10	10–60
	Paxil CR *	12.5	12.5–37.5
Sertraline	Zoloft *	25–50	50–200
Venlafaxine XR	Effexor XR *	75	75–225
Phenelzine	Nardil	15	45–90
Bupirone	BuSpar *	20 (10 BID)	45–60
Clonazepam	Klonopin *	0.25	1–4
Gabapentin	Neurontin *	300 (100 TID)	900–3,600
Mirtazapine	Remeron *	15	30
Pregabalin	Lyrica	300 (100 TID)	600
Quetiapine	Seroquel *	25	25–400

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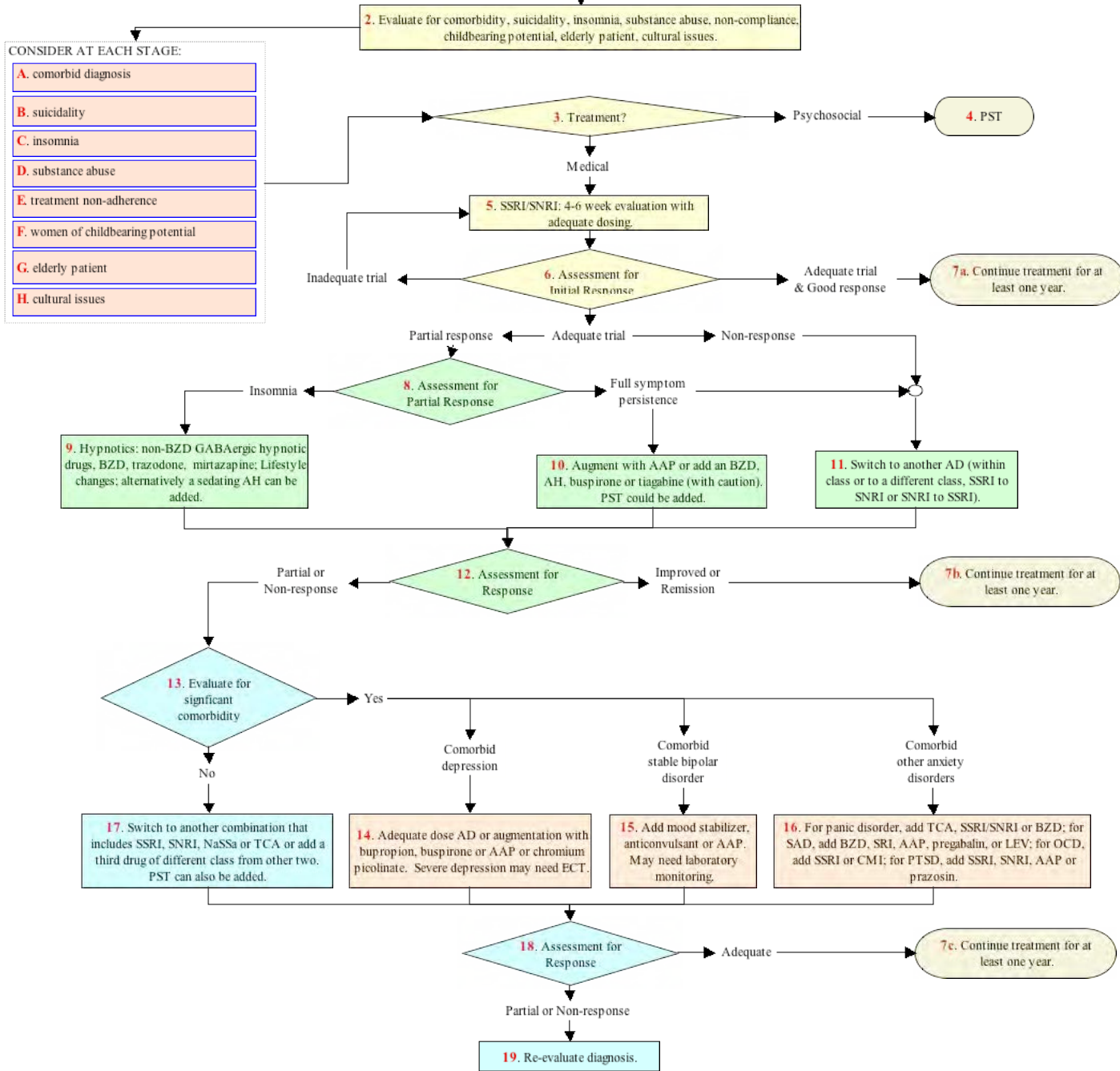


Social Anxiety Disorder Treatment Should Improve Three Areas



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KEY: AAP = atypical antipsychotic; AD = antidepressant; AH = antihistamine; BZD = benzodiazepine; CMI = clomipramine; ECT = electroconvulsive therapy; GAD = generalized anxiety disorder; LEV = levetiracetam; NaSSa = noradrenergic and selective serotonergic antidepressant; PST = psychosocial treatment; SAD = social anxiety disorder; SNRI = serotonin and noradrenaline reuptake inhibitor; SRI = serotonin reuptake inhibitor; SSRI = selective serotonin reuptake inhibitor; TCA=tricyclic antidepressant.