

# **Generalized Anxiety Disorder**

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# Pre-Lecture Exam

## Question 1

1. Epidemiological studies indicate that the lifetime prevalence of generalized anxiety disorder is:
  - A. 17.1%
  - B. 0.7%
  - C. 5.1%
  - D. 24.9%
  - E. 13.3%

## Question 2

- 2. Which of the following symptoms is most frequently present in patients with generalized anxiety disorder?**
- A. Panic attacks**
  - B. Feeling a detachment and estrangement from others.**
  - C. Markedly diminished interest in significant activities**
  - D. Disturbed sleep**
  - E. Fear of being home alone**

## Question 3

- 3. In contrast to patients with generalized anxiety disorder, subjects with hyperthyroidism:**
- A. Experience fatigue**
  - B. May have tachycardia**
  - C. May complain of heat intolerance**
  - D. Present with irritability**
  - E. Always present with goiter**

# Question 4

4. Which one of the following statements is true about comorbidity in generalized anxiety disorder?
- A. Panic disorder is the most common coexisting psychiatric disorder.
  - B. Approximately 25% of patients have a comorbid psychiatric disorder.
  - C. Major depression rarely co-occurs with generalized anxiety disorder.
  - D. Borderline personality disorder is the most prevalent Axis II disorder in these patients.
  - E. Social phobia is the most prevalent coexisting comorbid psychiatric disorder.

## Question 5

5. Which of the following statements about childhood presentation of generalized anxiety disorder is true?
- A. The disorder is uncommon in children and adolescents.
  - B. 10% of children with overanxious anxiety disorder have a comorbid psychiatric disorder.
  - C. They often appear overcompliant and perfectionistic.
  - D. They often experience significant separation anxiety.
  - E. They respond well to treatment with propranolol.

## Question 6

6. Which of the following compounds have demonstrated efficacy in the treatment of generalized anxiety disorder?
- A. Lithium
  - B. Tranylcypromine
  - C. Trazodone
  - D. Bupropion
  - E. Pimozide

# Question 7

- 7. Which of the following statements is true regarding the use of buspirone for generalized anxiety disorder?**
- A.** The onset of action is immediate, often as rapid as that of alprazolam.
  - B.** Buspirone may be administered once a day.
  - C.** Patients frequently report drowsiness and sedation.
  - D.** Buspirone carries no risk of dependence or withdrawal symptoms.
  - E.** Optimal response is usually achieved at a dose of 15 mg per day.



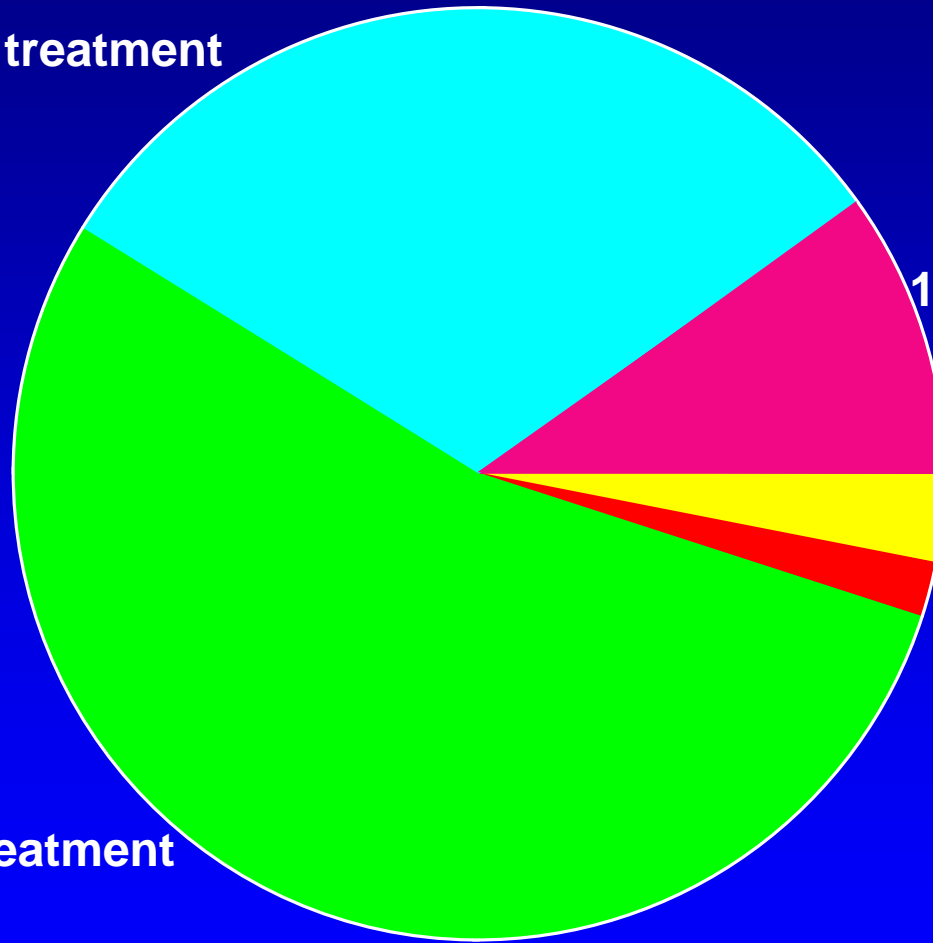
# Question 8

- 8. Which of the following is true regarding generalized anxiety disorder in the elderly?**
- A.** The prevalence of generalized anxiety disorder in the elderly is low.
  - B.** The long acting benzodiazepine diazepam is the preferable medication in these patients.
  - C.** Hepatic clearance of anxiolytic medications is decreased in the elderly.
  - D.** The use of TCA's is contraindicated in the elderly.
  - E.** Elderly patients require higher doses of buspirone in order to achieve therapeutic effect.

# Economic Burden of Anxiety Disorders

Total costs \$42.3 billion in 1990

31% - Psychiatric treatment



10% - Workplace costs

3% - Mortality costs

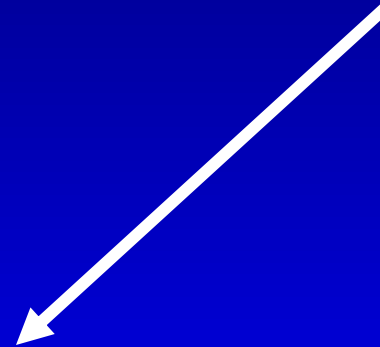
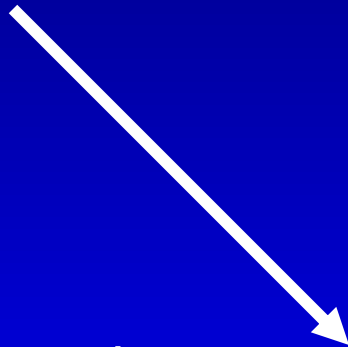
2% - Pharmaceutical costs

54% - Medical treatment

# Generalized Anxiety Disorder (GAD)

**Under-recognized**

**Under-treated**



**↑ Health-care utilization**

**↑ Disability/impairment**

**↑ Psychiatric disorders**

# Generalized Anxiety Disorder (GAD)

## Nosology

- In early versions of DSM was a residual anxiety category
- Emphasis has changed from somatic to psychic manifestations
- Increased duration of symptoms to 6 months
- Virtually a new disorder as currently defined
- Perceptions of psychiatrists and PCPs differ

# **Generalized Anxiety Disorder (GAD)**

- **Excessive anxiety and worry about a number of events for the majority of days over 6 months**
- **Difficulty in controlling the worry**
- **Associated physical and psychological symptoms**
- **Causes significant distress or impairment**
- **Not due to a substance or a general medical condition**

# GAD Symptoms

- **Psychic symptoms**
  - worry
  - insomnia
  - fatigue
  - irritability
  - feeling “on edge”
  - poor concentration
- **Somatic symptoms**
  - muscle tension
  - nausea or diarrhea
  - sweating
  - urinary frequency
  - palpitations

# Epidemiology of GAD

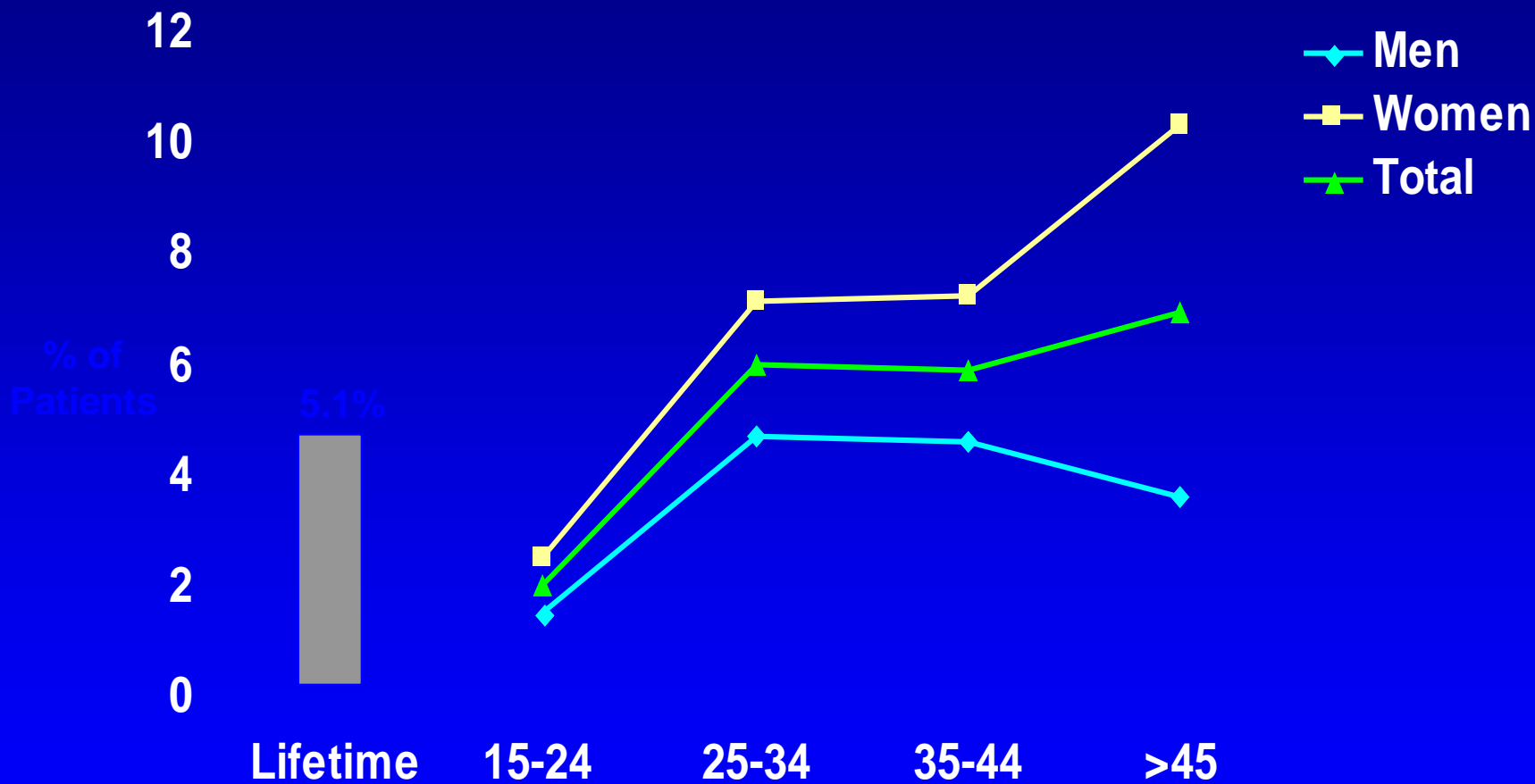
- Lifetime prevalence 5.1 %
- Women outnumber men 2:1
- Modal age of onset is early 20s
- High comorbidity in clinical cases; 1/3 “Pure” in community samples
- Chronic (mean > 20 yrs) with low rate of spontaneous remission (25% @ 2 yrs)

# Epidemiology of GAD

- **2nd most common psychiatric disorder after depression in primary care<sup>1</sup>**
- **8% point prevalence in primary care<sup>2</sup>**



# Lifetime Prevalence of GAD: National Comorbidity Survey



# GAD Patients: Comorbidity

- **90% have another psychiatric disorder**
- **In patients with GAD**
  - **62% have lifetime major depression**
  - **40% have dysthymia**
- **Anxiety disorders predict greatest risk of secondary MDD**
- **58% of patients with lifetime MDD have anxiety disorder**

# Primary Psychiatric Disorders

## Differential Diagnosis

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### –Adjustment disorders

- With anxiety
- With depression
- With mixed symptoms

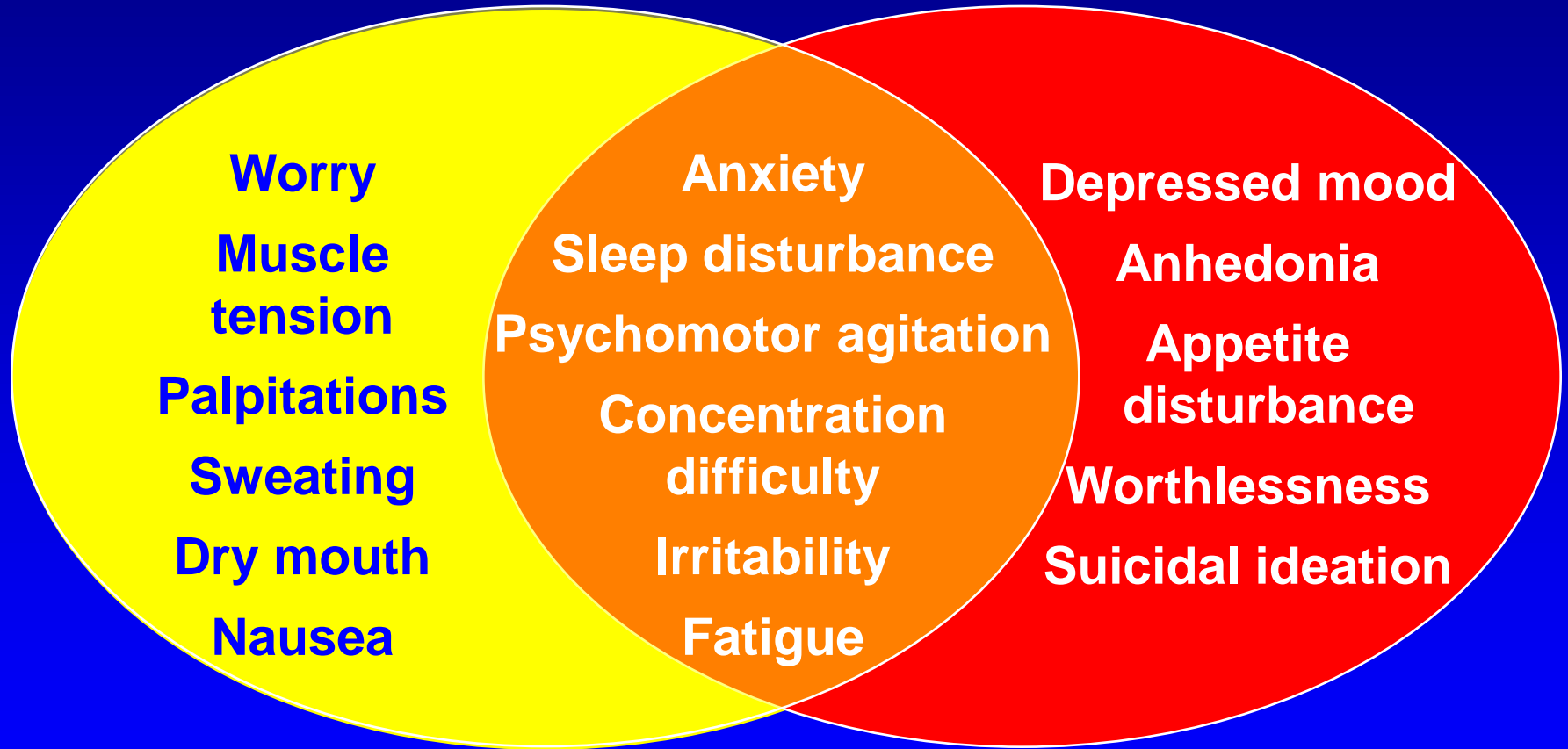
### –Anxiety disorders

- Generalized anxiety disorder (GAD)
- Panic disorder
- Phobias
- Post-traumatic stress disorder (PTSD)
- Obsessive-compulsive disorder (OCD)

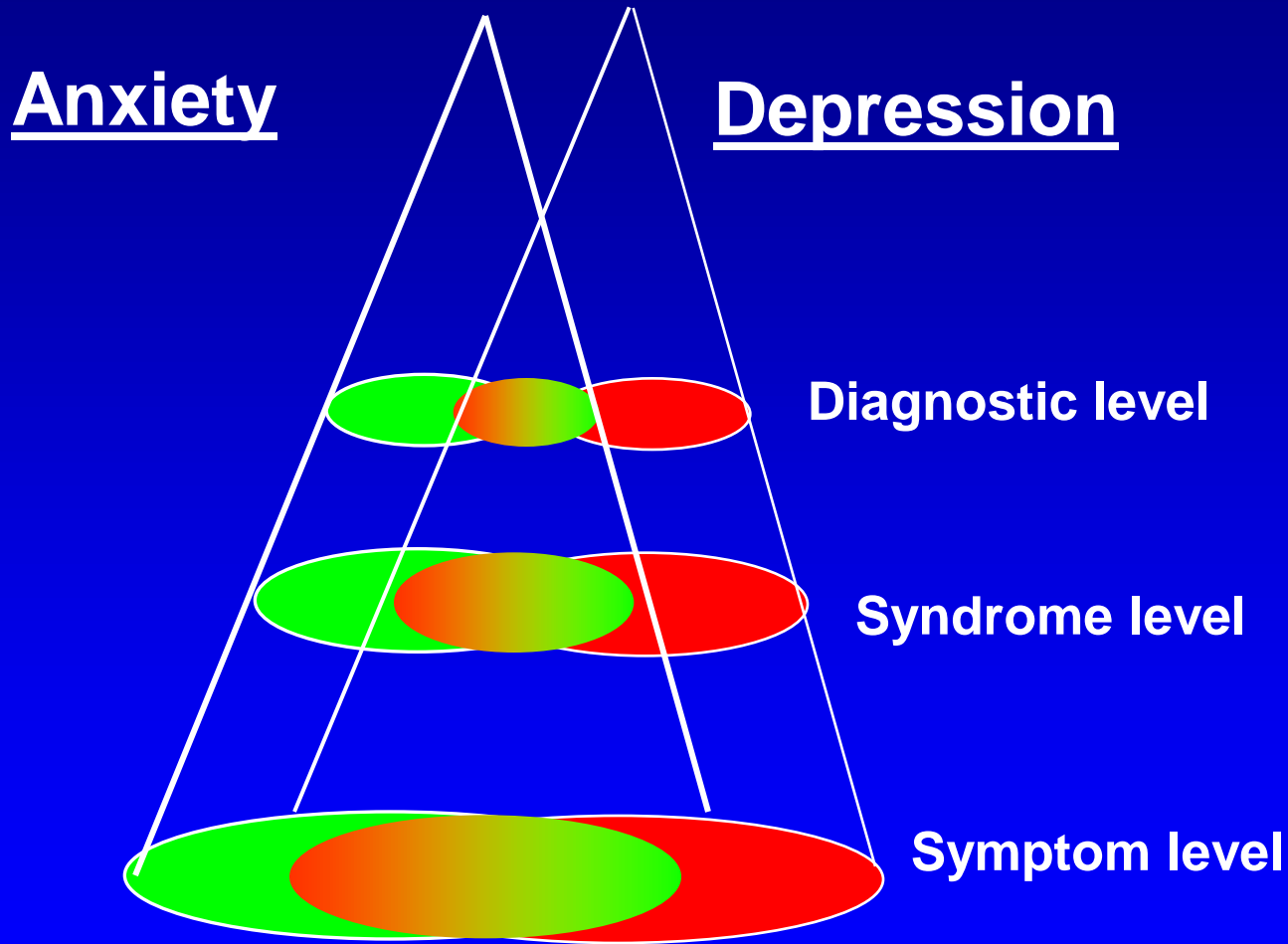
# Overlapping Symptoms of Depression and GAD

Generalized Anxiety Disorder

Major Depressive Disorder



# A Model for Overlap Between Anxiety and Depression

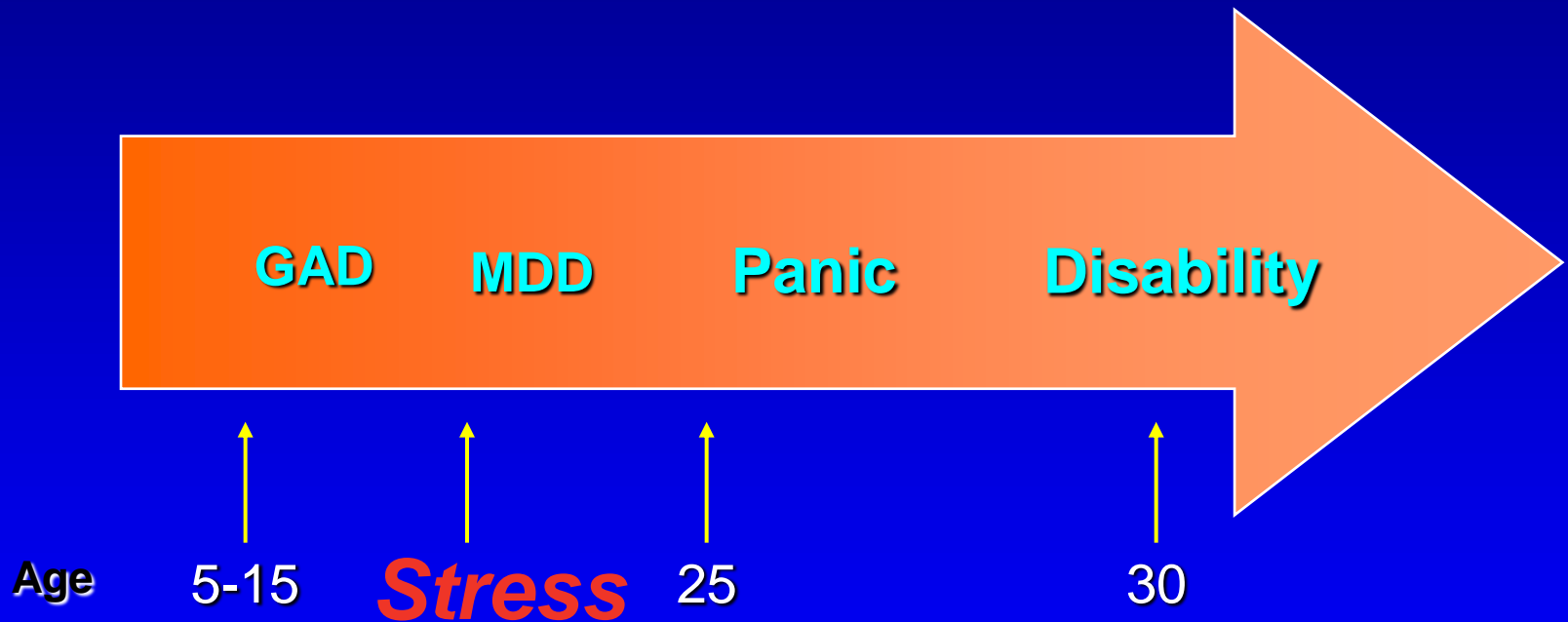


# Depression and Anxiety are inextricably Linked

- **Common neurobiological substrates**
  - CRF key
- **Same neural circuits**
  - Redundant
  - Mutually homeostatic
- **Transmitters are USUALLY co-released**
- **Over 100 neuromodulators and neurotransmitters identified**
- **Oversimplification in models unavoidable**

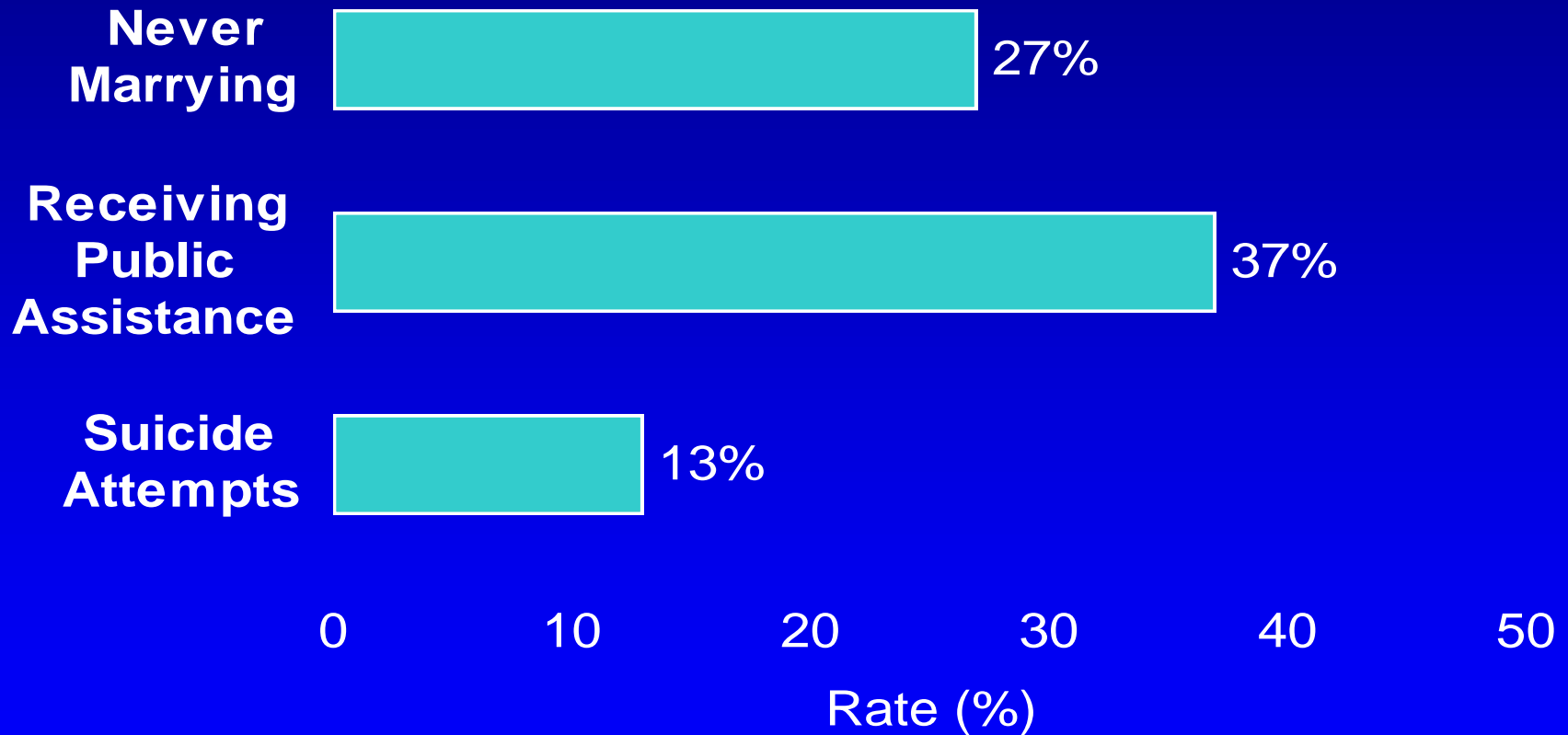
# Model Sequence Psychiatric Comorbidity

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Suggests common neurobiology  
Nosology necessary but imperfect

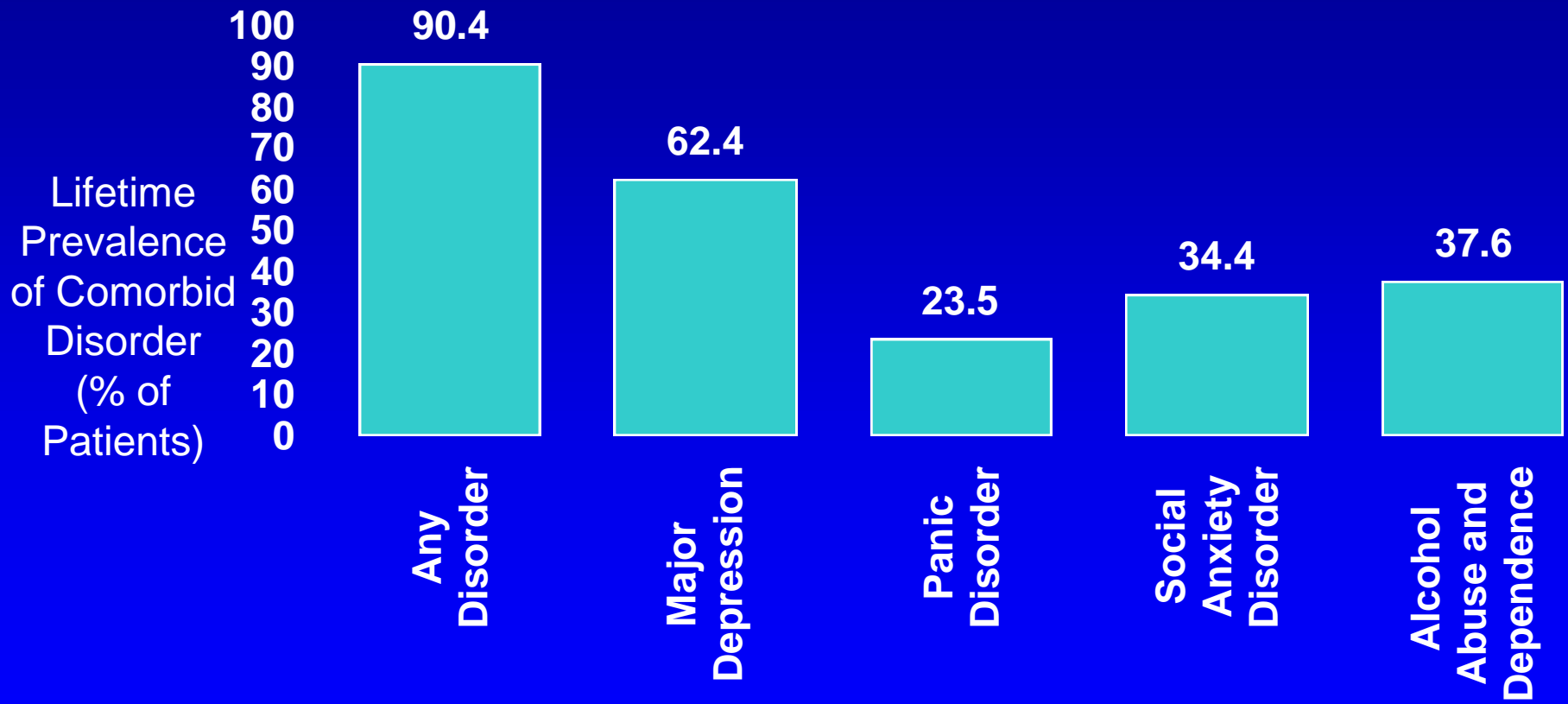
# GAD: Complications



Massion AO et al. *Am J Psychiatry*. 1993;150:600-607.

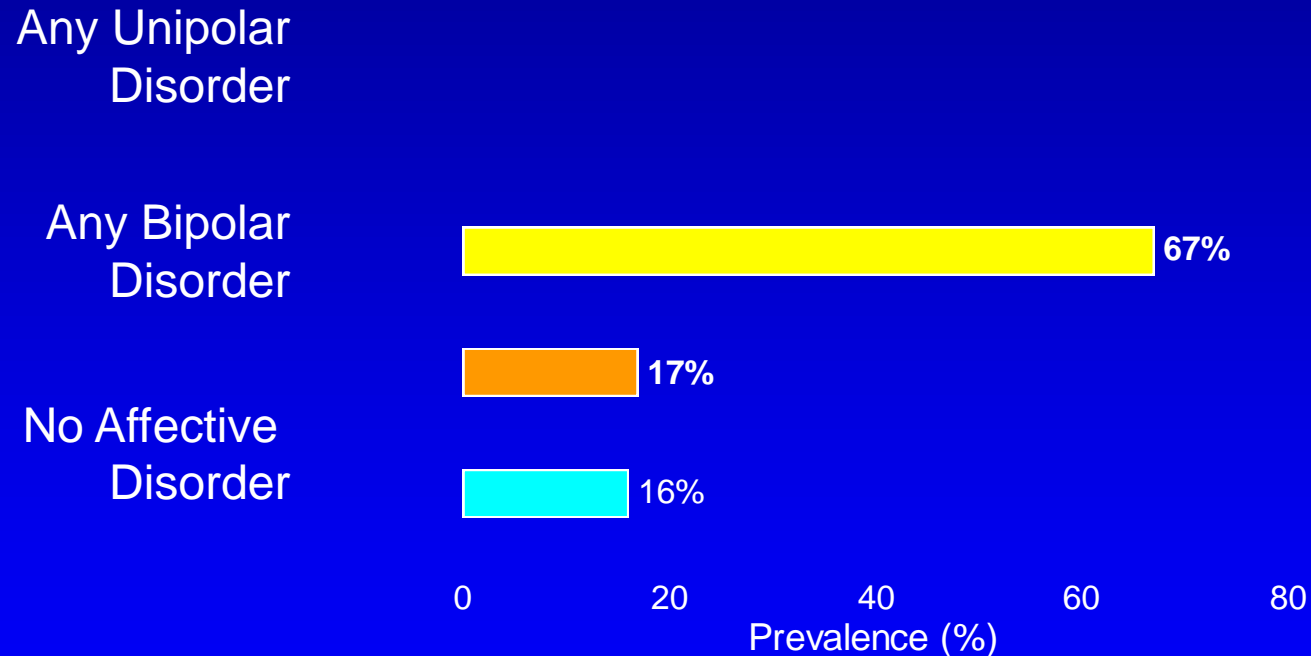


# Lifetime Prevalence of Comorbid Disorders in Patients with GAD



Wittchen HU et al. *Arch Gen Psychiatry*. 1994;51:355-364.

# Prevalence of Mood Disorders Comorbid with Lifetime GAD

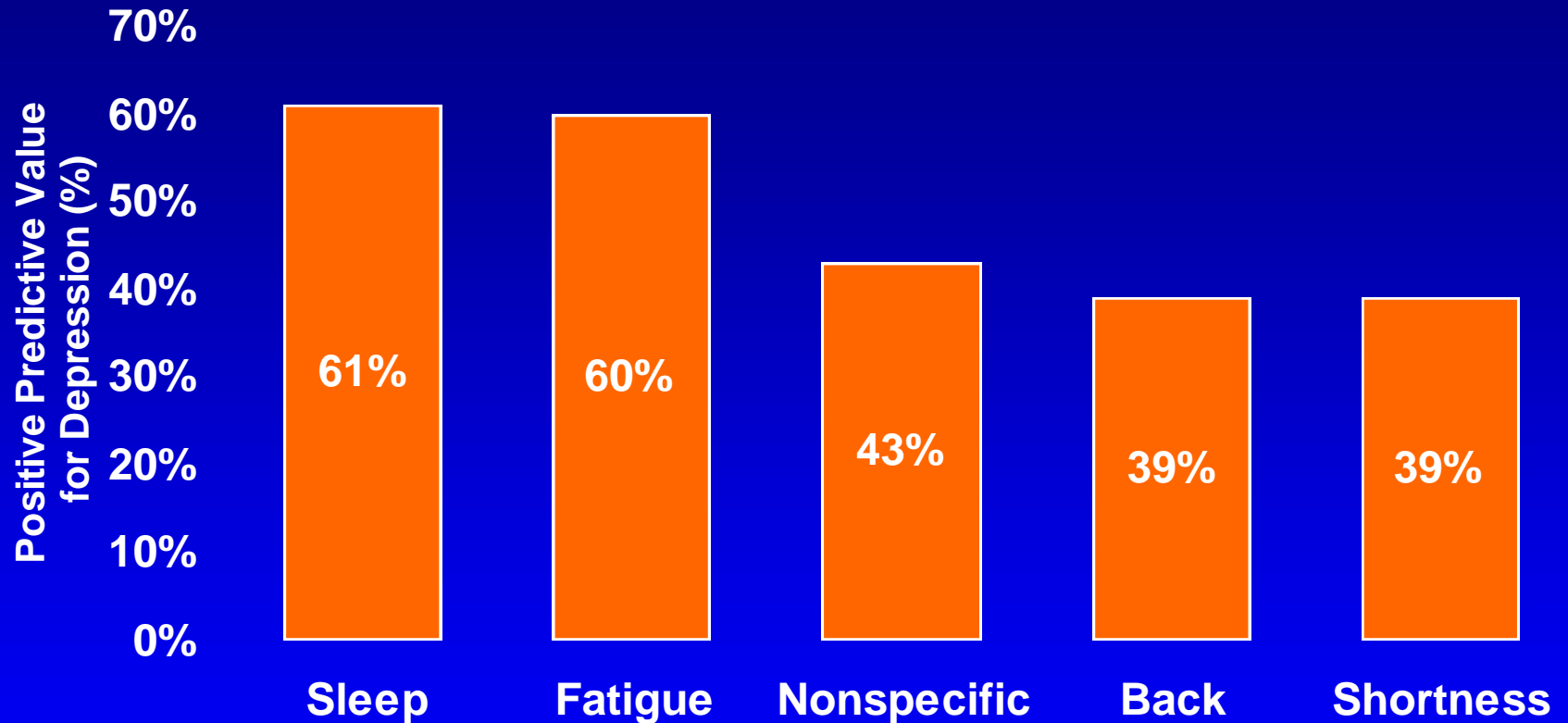


Weighted n = 418.

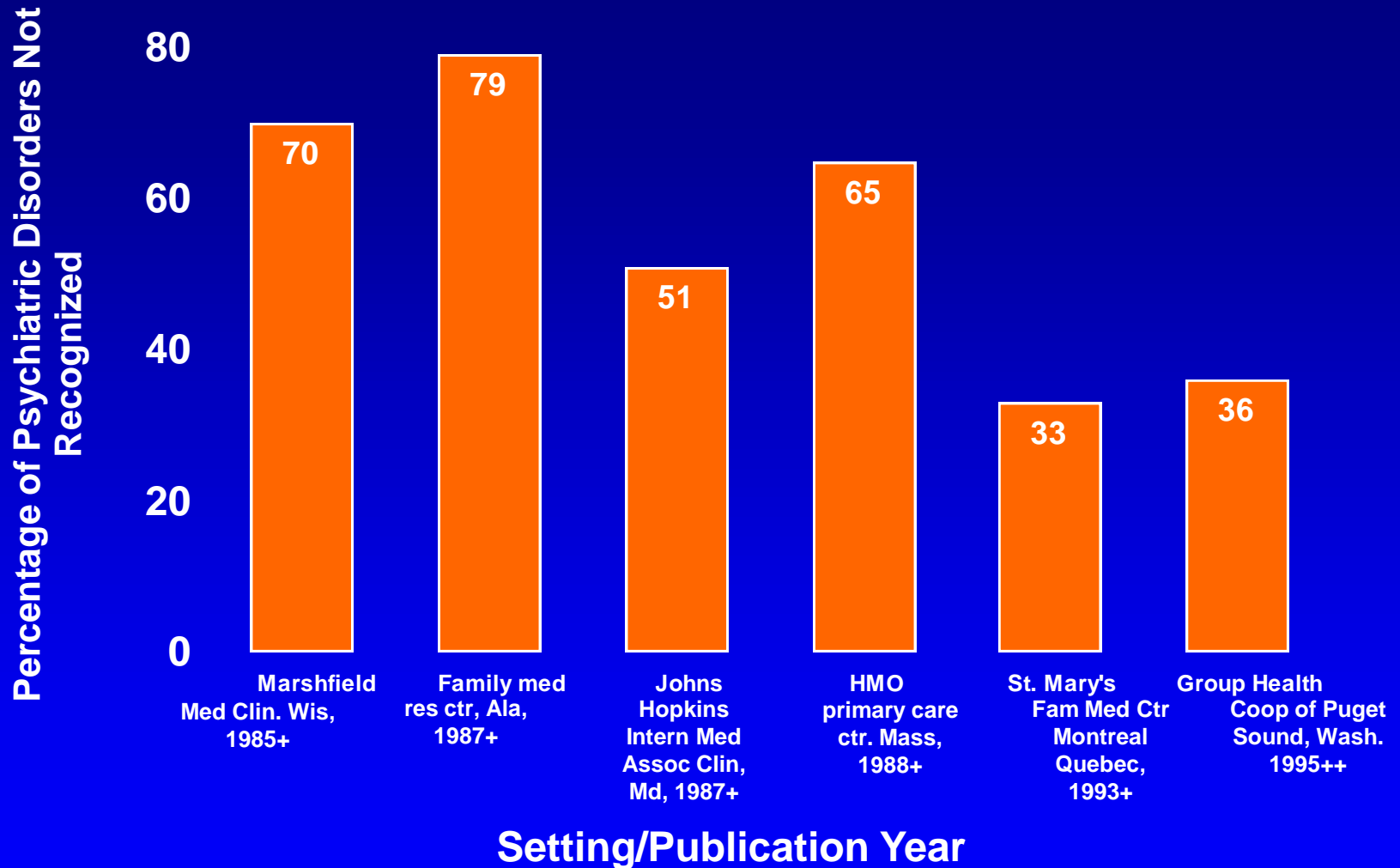
Results from NCS respondents.

Judd LL et al. *Acta Psychiatr Scand.* 1998;98(suppl 393):6-11.

# Somatic Symptoms: Potential Markers for Depression (n=1042)



# Psychiatric Disorders Often Go Undiagnosed in Primary Care

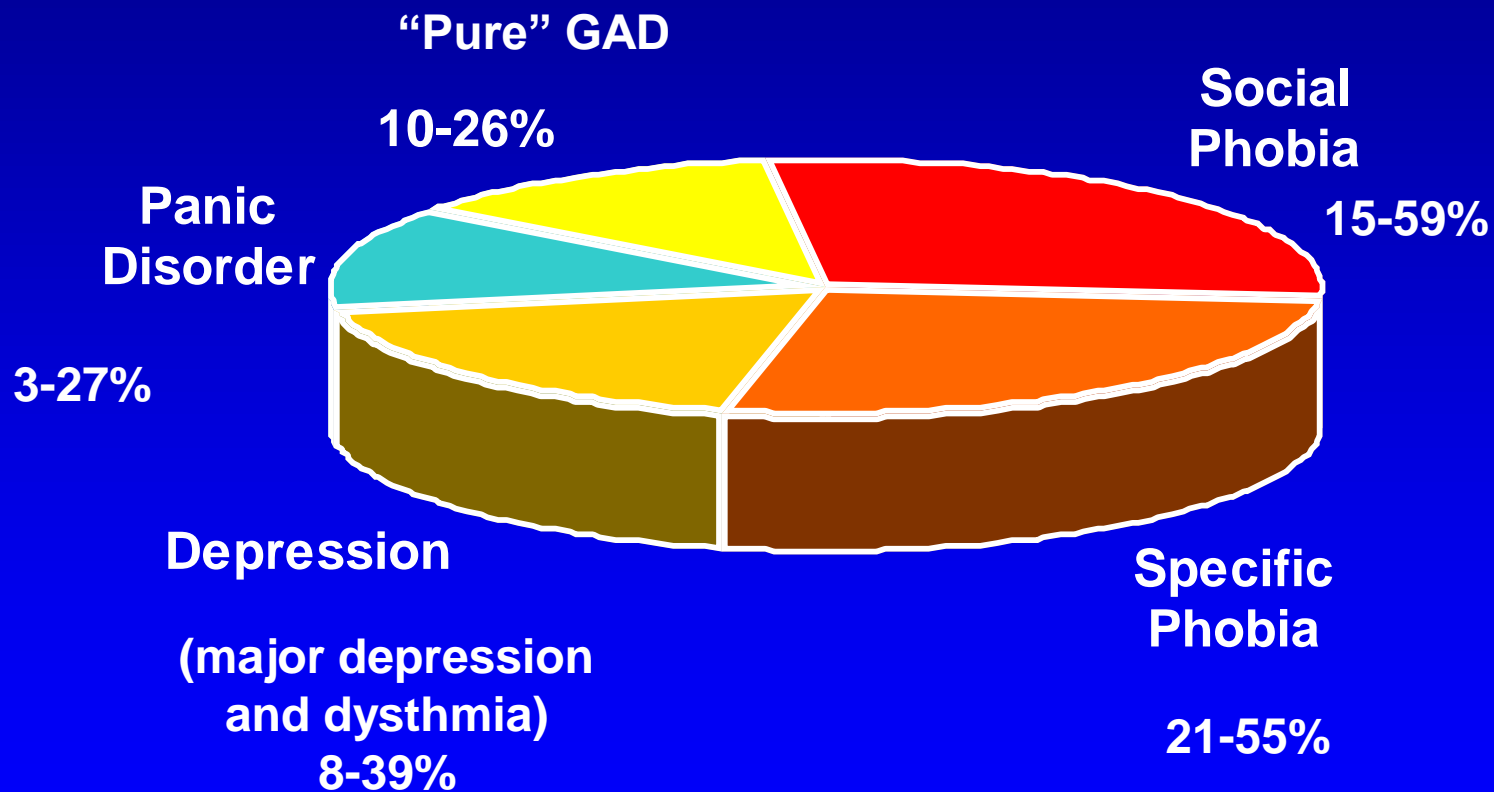


\* Unrecognized major depression

+ Adapted from Higgins ES. A review of unrecognized mental illness in primary care, prevalence, natural history, and efforts to change the course. *Arch Fam Med* 1994;3:908-907

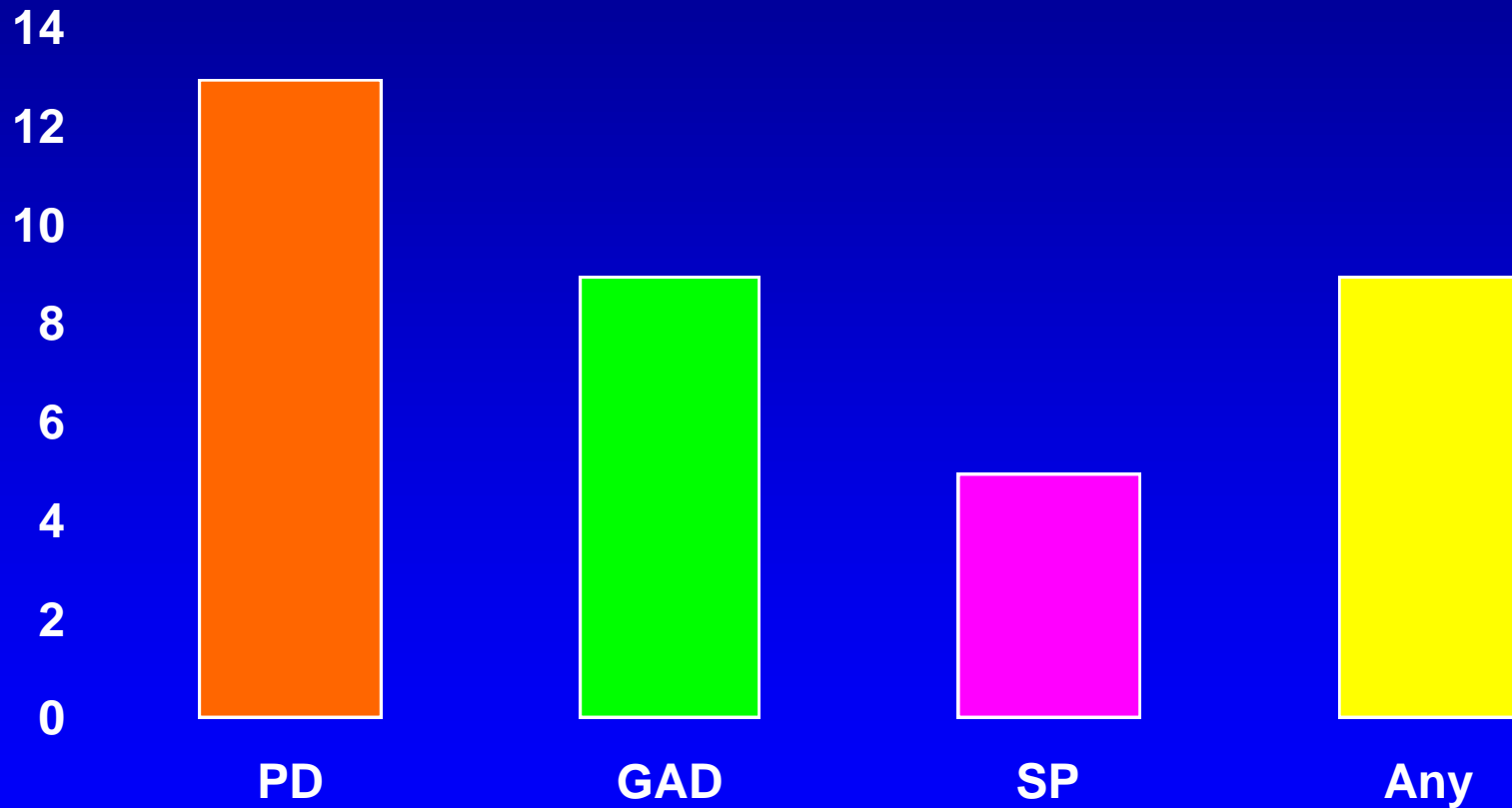
++Adapted from Simon GE et al. Recognition, management, and outcomes of depression in primary care. *Arch Fam Med*; 4:99-105

# Psychiatric Comorbidity in Generalized Anxiety Disorder\*



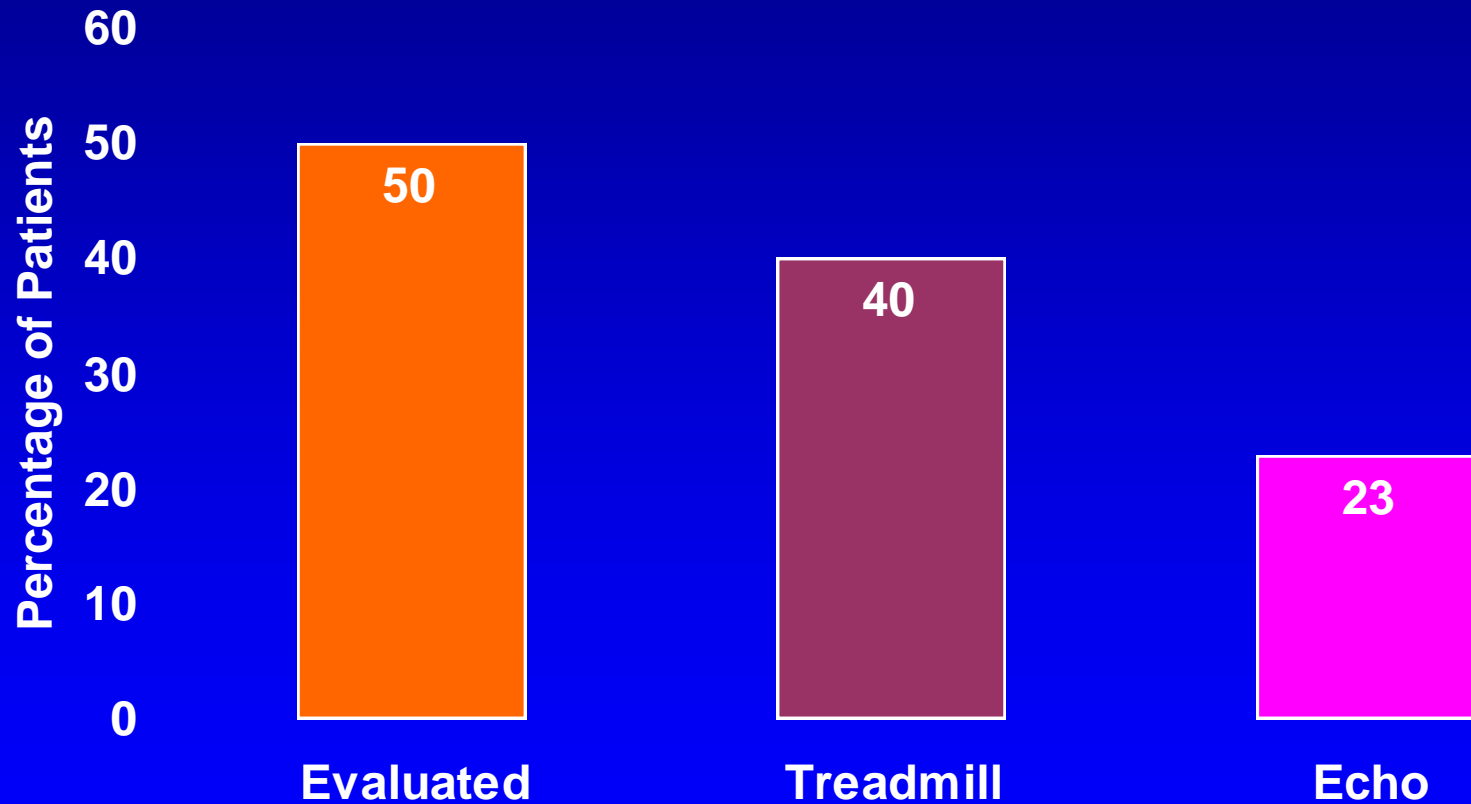
\*Current comorbid psychiatric diagnosis

# Lifetime Risk of MDE in Anxiety Disorder (O.R.)



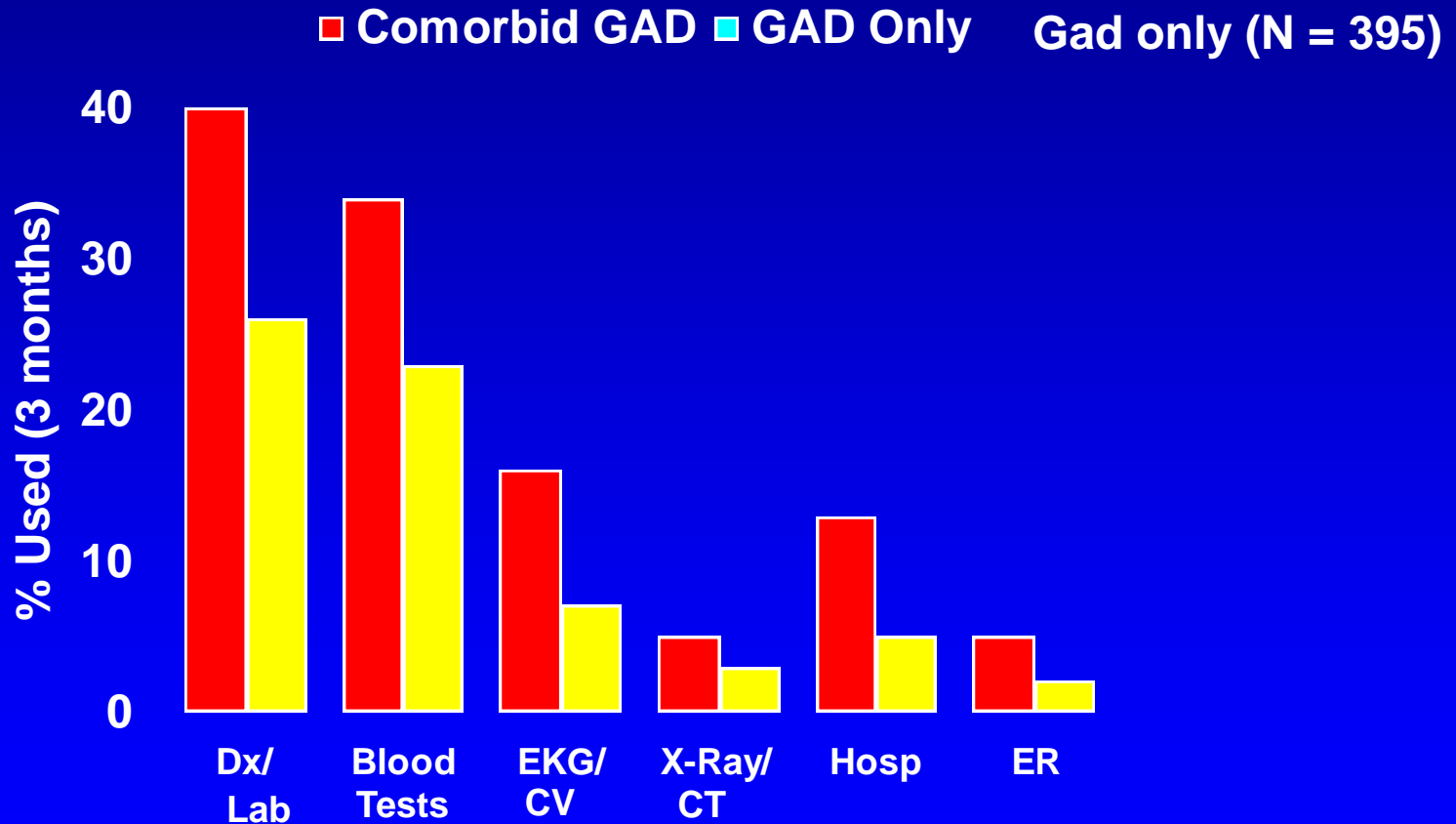
# GAD in Cardiology

## Cardiovascular Evaluation Sought by GAD Patients



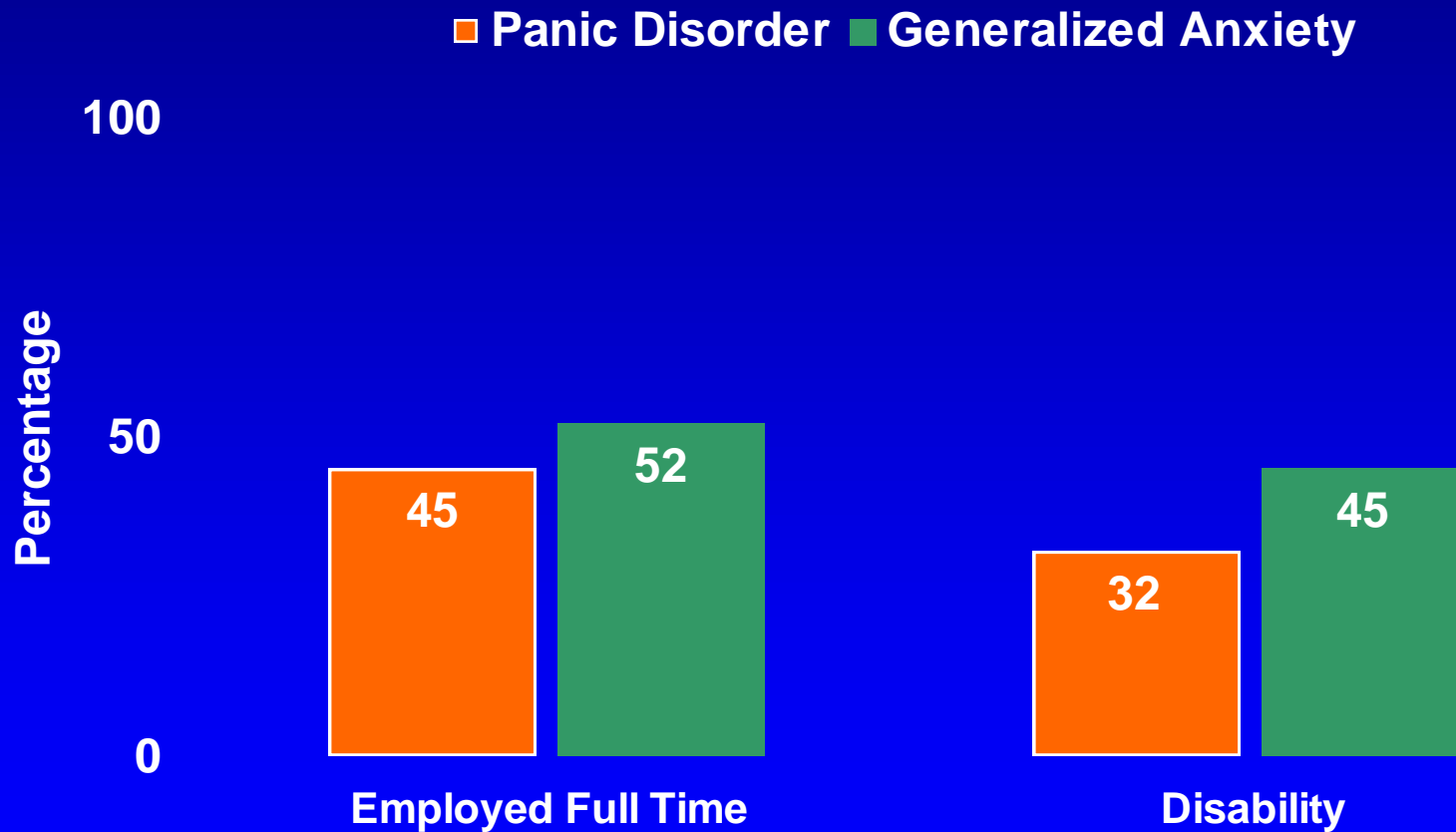
# Generalized Anxiety Disorder

## Services Utilization and Comorbidity

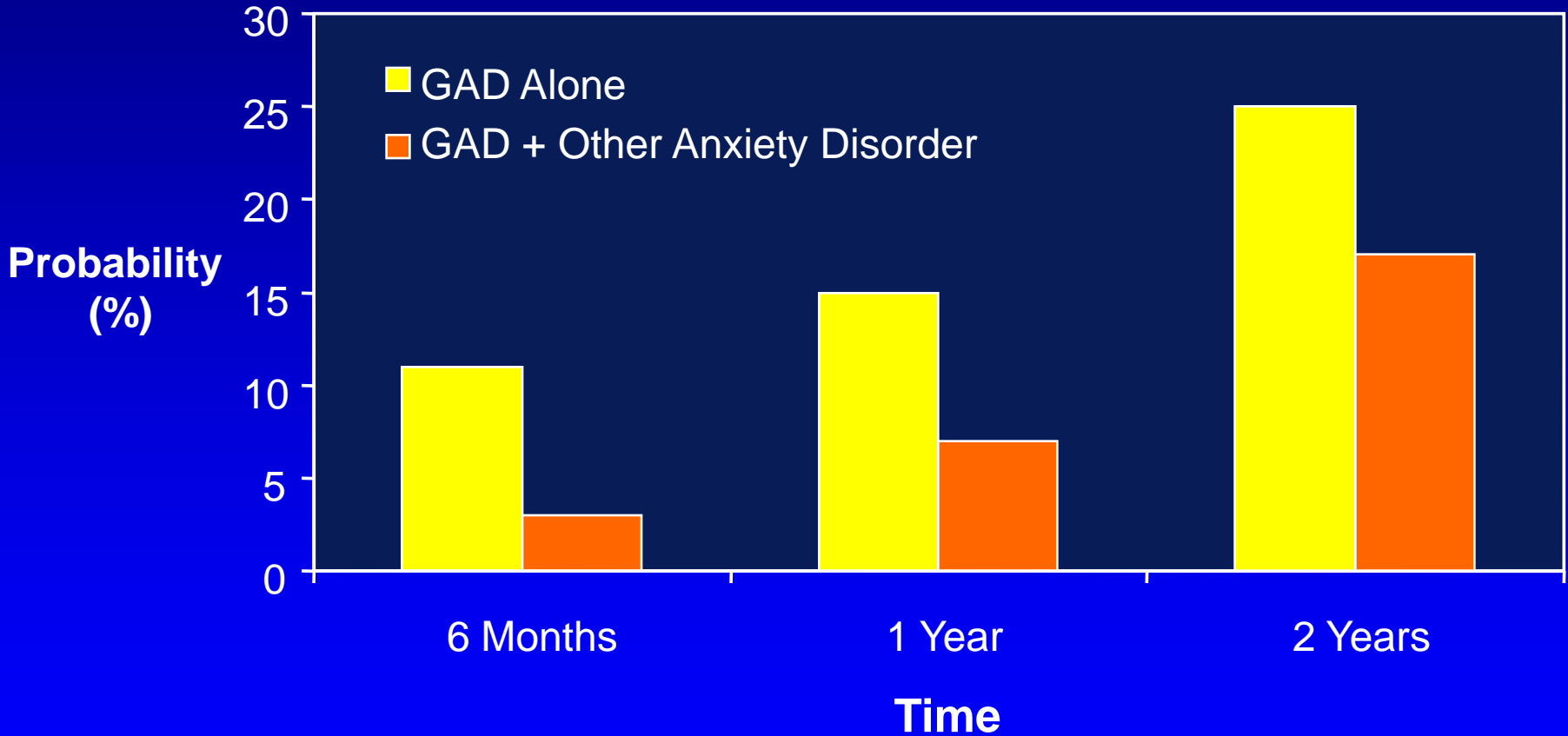




# Harvard-Providence Research Project (HARP)

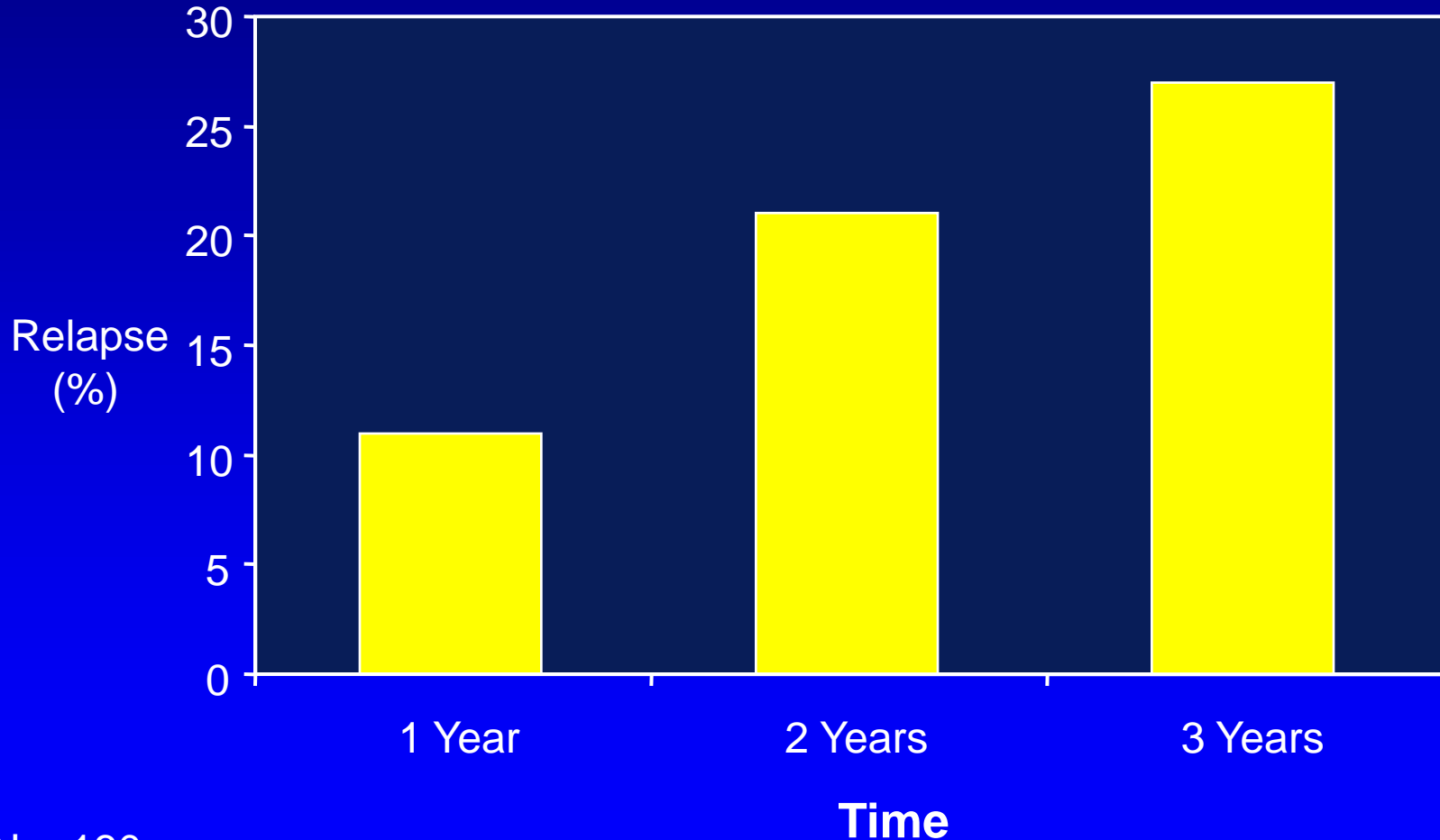


# Low Probability of Remission in GAD\*



Yonkers KA et al. *Br J Psychiatry*. 1996;168:308-313.

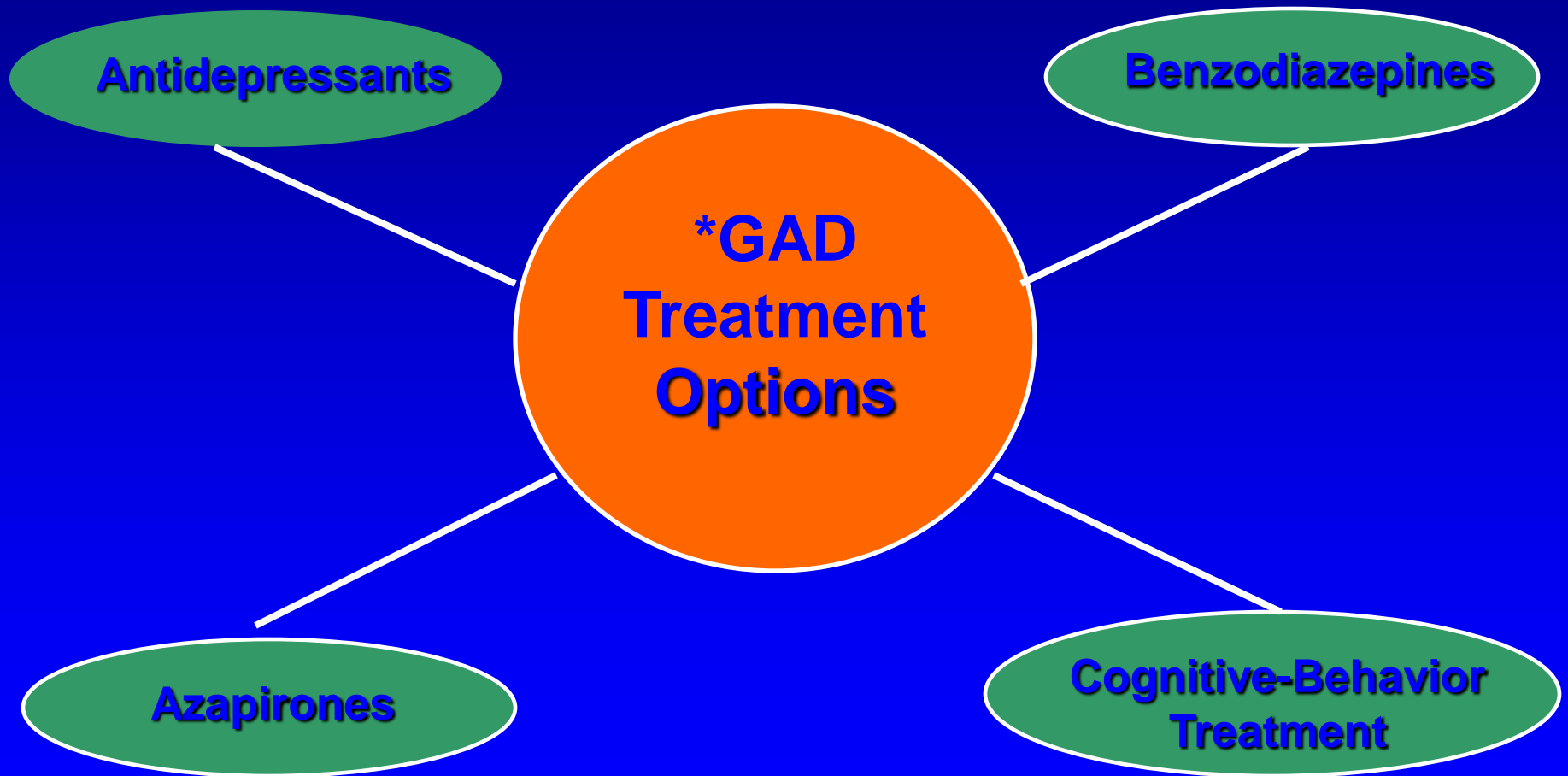
# Relapse Rates in GAD After Full Remission



N = 130.

Yonkers KA et al. *Br J Psychiatry*. 2000;176:544-549.

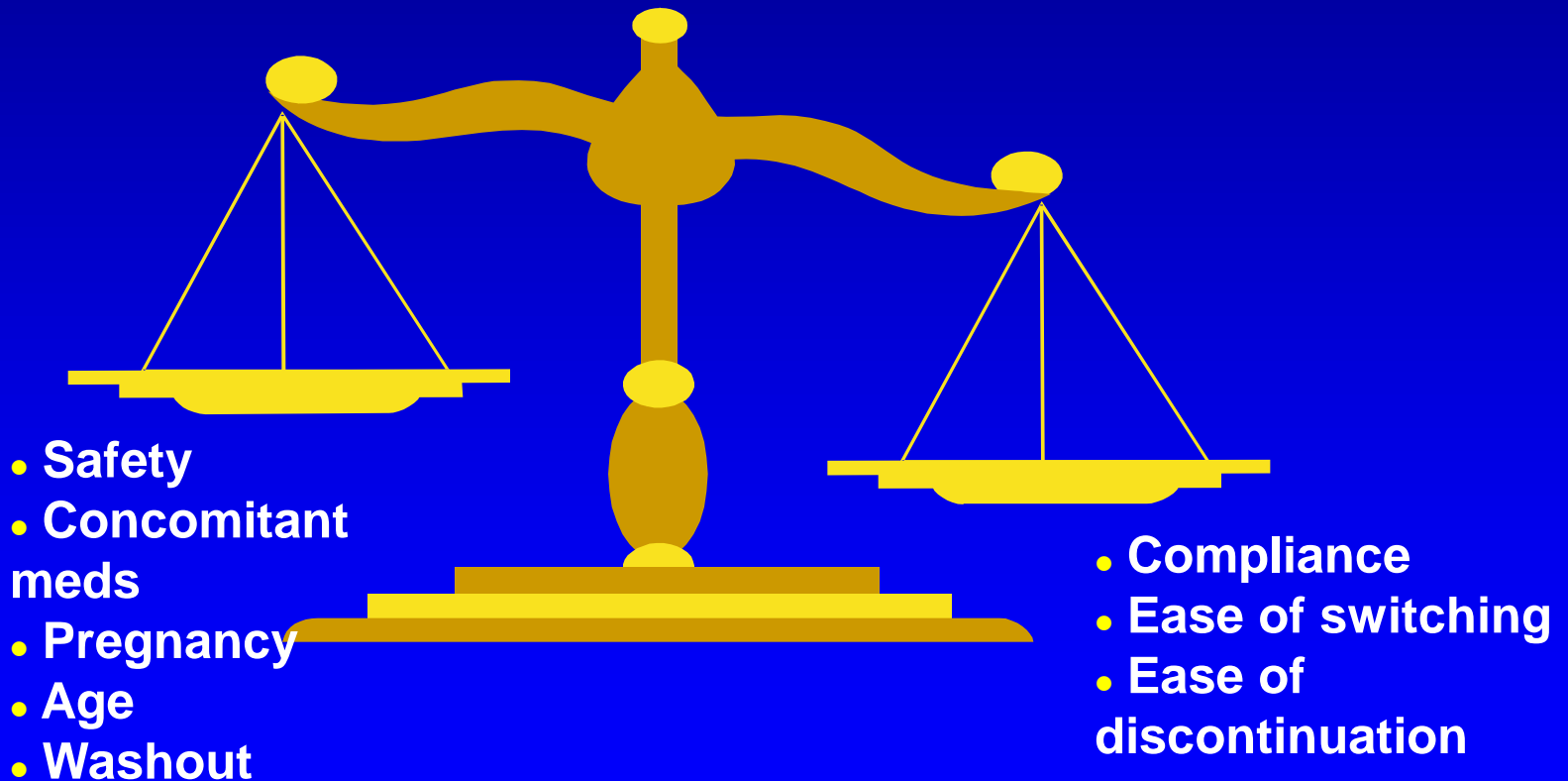
# “Pure” GAD: Treatment Options



# Initiating therapy: treatment considerations

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Ease of management



# Patient Assessment

- Establish Diagnosis
- Comorbid diagnosis present?
  - Current or past depression
- Natural History of Illness
- Treatment History
- Family History
- Medical History and exam
  - Review medications, *including herbal medicine*

# Differential Diagnosis

## Medications Which Can Cause Anxiety Symptoms

- Stimulants (caffeine)
- Thyroid supplementation
- Antidepressants
- Corticosteroids
- Oral contraceptives
- Bronchodilators
- Decongestants
- Abrupt withdrawal of CNS depressants
  - Alcohol
  - Barbiturates
  - Benzodiazepines

Fernandez et al. J Clin Psychiatry. 1995;56(suppl 2):20–29.

Kirkwood et al. Anxiety disorders. In: DiPiro et al, eds. Pharmacotherapy: A Pathophysiologic Approach. 3rd ed. 1997:1443–1462.

# *Differential Diagnosis*

## **Medical Conditions with Secondary Anxiety Symptoms**

- **Endocrine disorders**
  - Thyroid disease
  - Parathyroid diseases
  - Hypoglycemia
  - Cushings Disease
- **Cardio-respiratory disorders**
  - Angina
  - Pulmonary embolism
- **Autoimmune disorders**
- **Neurological**
  - Seizure disorder
- **Substance-related  
dependence/ withdrawal**
  - Nicotine
  - Alcohol
  - Benzodiazepines
  - Opioids



# Treatment Considerations for Anxiety-Depression Spectrum

Anxiety ←————→ Depression

Azapirone  
Benzodiazepine  
Antidepressant\*

Antidepressant



Azapirone  
Antidepressant\*  
± Benzodiazepine

\*Antidepressant of choice may vary by diagnostic category, side effects profile, and anxiolytic profile

# **GAD Treatments**

## **Newer Antidepressants**

### **Venlafaxine and SSRIs**

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#### **Advantages**

- **Effective**
- **Benign side-effect profile**
- **Safety**
- **No dependence issues**
- **Once a day dosing**

#### **Disadvantages**

- **Delayed onset of action**
- **Early anxiogenic effect**
- **Sexual side-effects**
- **Usually requires dose titration**

\*Nefazodone , bupropion, mirtazepine -insufficient information

# The Evolution of Antidepressants

*\*Broad-Spectrum  
Of Efficacy*

1950s

1960s

1970s

1980s

1990s



Imipramine  
(1957)

Clomipramine  
Nortriptyline  
Amitriptyline  
Desipramine

Phenelzine  
Isocarboxazid  
Tranlycypromine

Maprotiline  
Amoxapine

Bupropion

Fluoxetine\*

Sertraline\*

Paroxetine\*

Fluvoxamine\*

Citalopram\*

Escitalopram\*

Nefazodone  
Mirtazapine

Venlafaxine\*

# **GAD Treatments**

## **Tricyclic antidepressants (TCAs)**

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### **Advantages**

- **Single daily dose**
- **Antidepressant effects**
- **No abuse potential**
- **Well studied**
- **Effective**
- **Generics available**

### **Disadvantages**

- **Delayed onset**
- **Anticholinergic side-effects**
- **Postural hypotension**
- **Weight gain**
- **Sexual side-effects**
- **Initial stimulation**
- **Dangerous in overdose**

# Antidepressant Dosing for GAD

AGENT	Dosage Range (mg)
<b>Atypical Antidepressants</b>	
Venlafaxine**	75-225
Trazodone*	150-600
Nefazodone*	100-450
<b>TCA's</b>	
Imipramine*	100-300
Chlorimipramine*	50-150
<b>SSRIS</b>	
Fluoxetine	20-60
Sertraline*	100-200
Paroxetine*	20-40
Fluvoxamine	100-300
Citalopram*	20-40
Escitalopram*	10-20

\*Controlled data , \*\*FDA approved

# **GAD Treatment**

## **Benzodiazepines**

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### Advantages

- **Rapid onset**
- **Effective**
- **Well-tolerated**
- **General anti-anxiety effects**
- **Safe in overdose**
- **Generics available**

### Disadvantages

- **Withdrawal reactions**
- **Sedation**
- **Multiple daily dosing often required**
- **Abuse potential in patients w/ Hx abusing**
- **Poor antidepressant effect**

# GAD Treatment

## Benzodiazepines

**Agent**

**Daily  
Dosage**

**Range (mg)**

### **Benzodiazepines**

**Alprazolam**

**2-6**

**Clonazepam\***

**1-3**

**Lorazepam**

**4-10**

**Diazepam\***

**15-20**

**\*Slow elimination, longer to steady-state**

# **Benzodiazepine**

## **Approximate Clinical Equivalents**

- **Clonazepam 0.5**
- **Alprazolam 1 mg**
- **Lorazepam 1.5 mg**
- **Diazepam 10 mg**



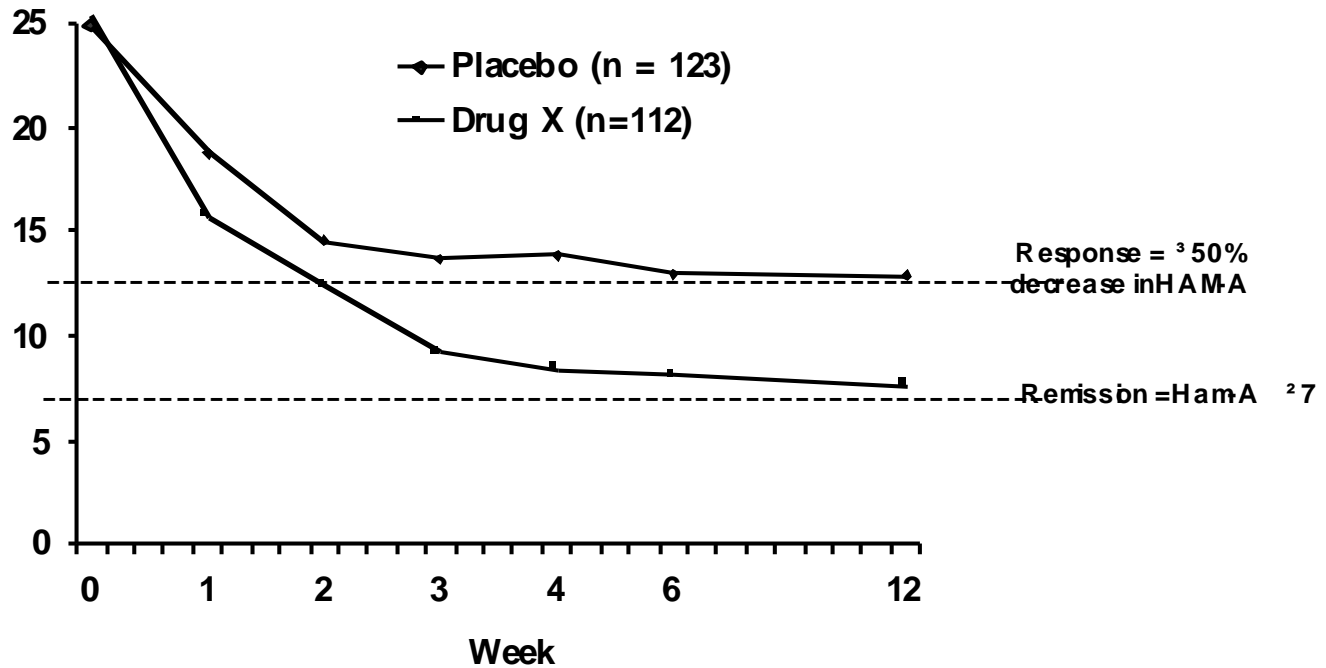
# Guidelines for Remission of GAD

Subjective Goal	Objective Goal	Time Course
Minimize anxiety	HAM-A score $\leq$ 7-10 or 70% improvement on patient-rated scale	8-12 wk
Eliminate depression	HAM-D score $\leq$ 7 or 70% improvement on patient-rated scale	3-6 mo
Prevent recurrence of depression	HAM-D score $\leq$ 7 or 70% improvement on patient-rated scale	3-12 mo
Resolve functional impairments	Sheehan score $\leq$ 1 (mildly disabled)	3-12 mo

**Ballenger JC. *J Clin Psychiatry*. 1999;60(suppl 22):29-34.**

# Response vs Remission

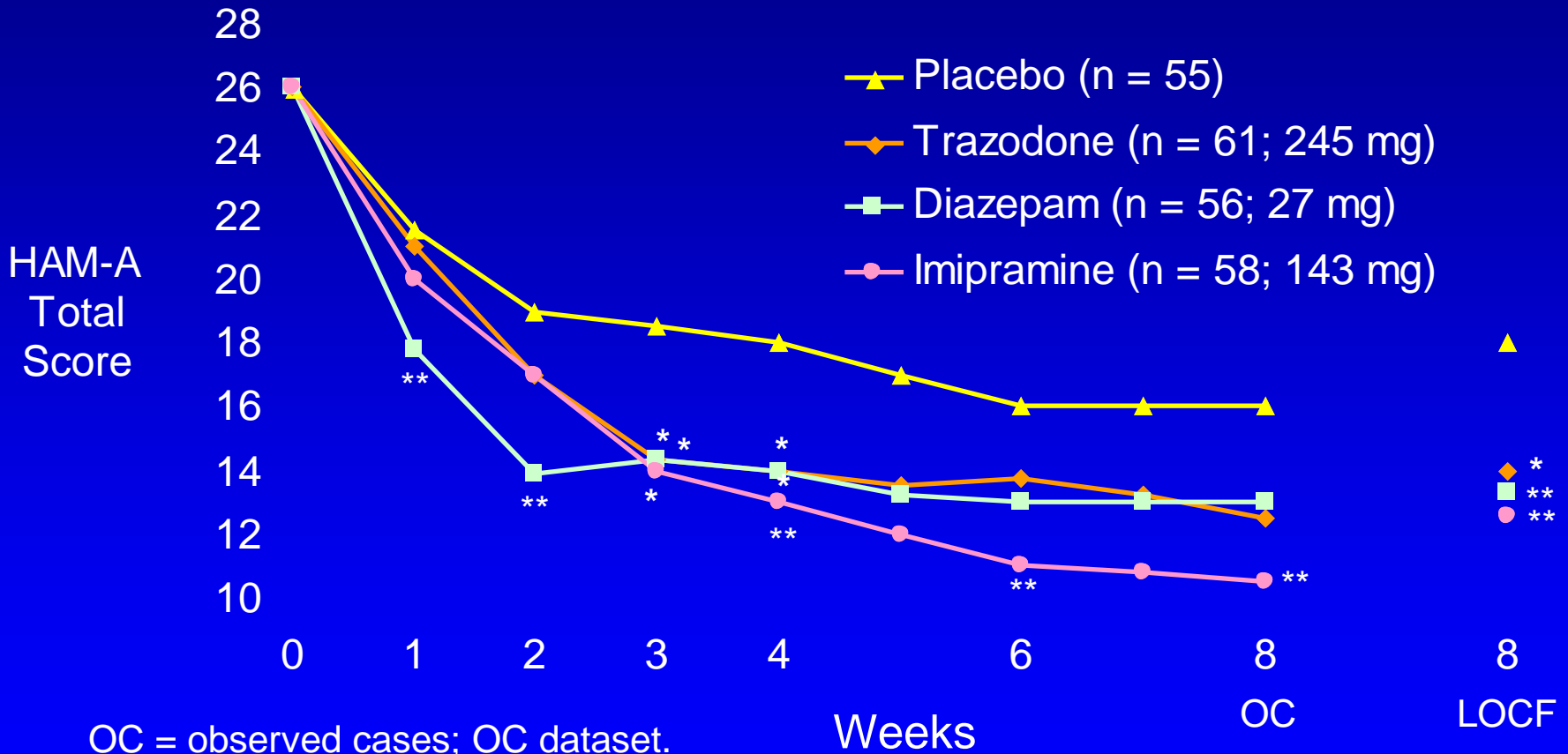
## HAM-A Total Score Change During Treatment



# Outcomes Assessment in GAD

- **Hamilton Anxiety Rating Scale**
  - Traditionally used in clinical trials
- **Hospital and Anxiety Rating Scale**
  - Patient rated 14 items
    - 7 items for anxiety
    - 7 items for depression
    - Sensitive to change
    - Equivalence to Hamilton Anxiety Scale shown in large patient sample

# Imipramine, Diazepam, and Trazodone Treatment of GAD



OC = observed cases; OC dataset.

\* $P < .05$ .

\*\* $P < .01$ .

Rickels K et al. *Arch Gen Psychiatry*. 1993;50:884-895.

# GAD -Anxiolytics

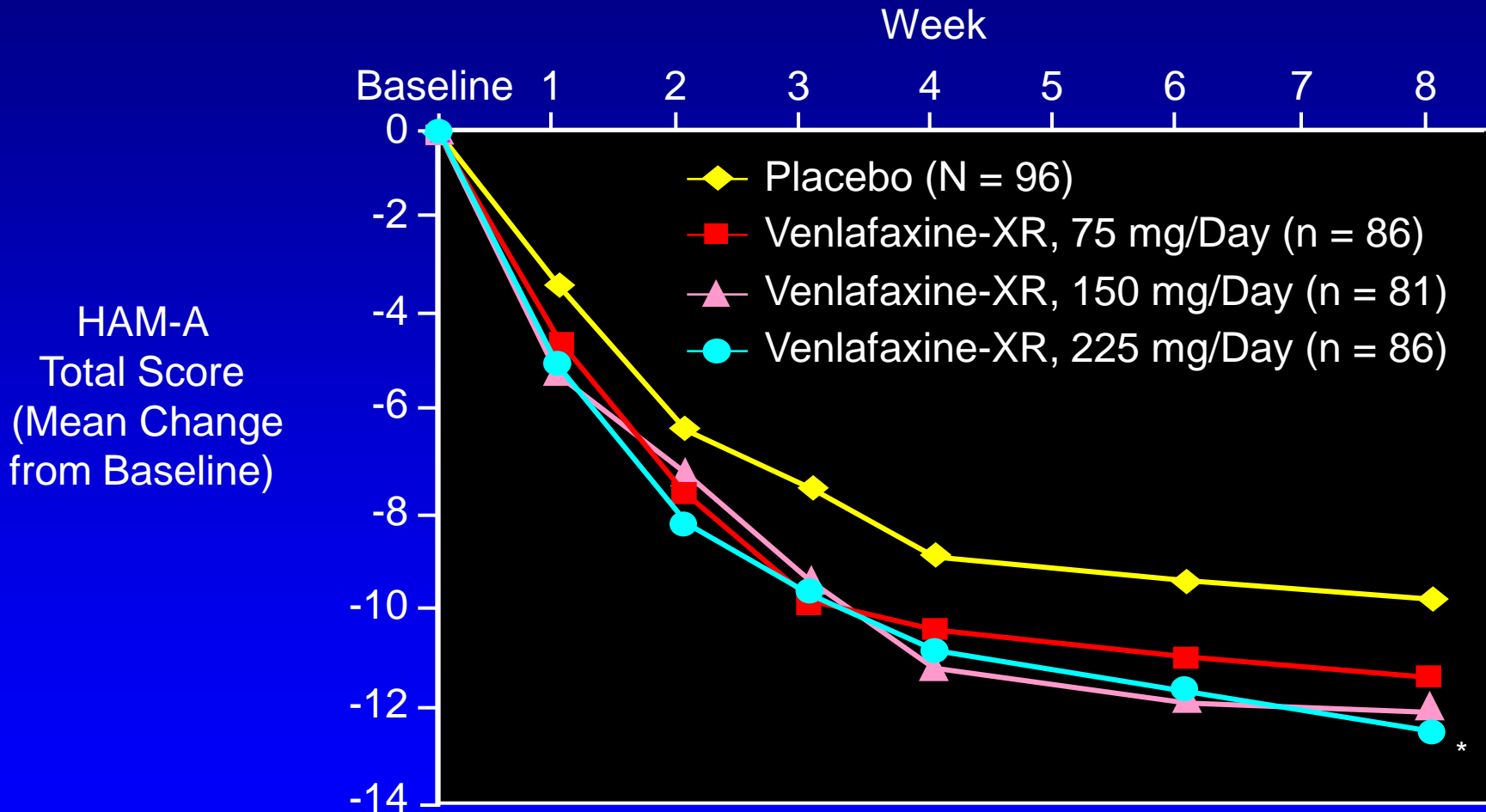
**Azapirones**

**Buspirone**

**30-60**

# Venlafaxine Treatment of GAD

## HAM-A Total Score

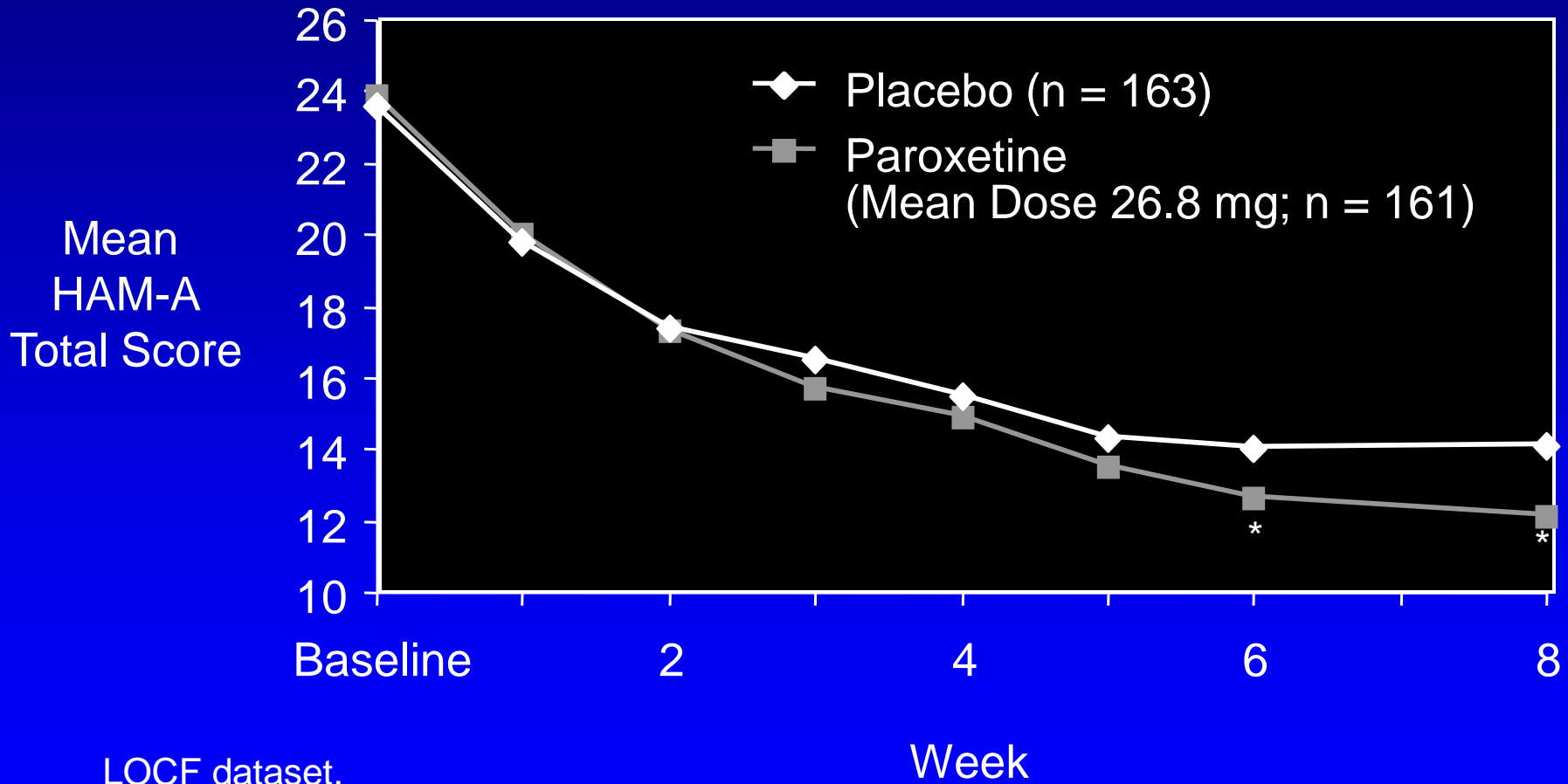


\* $P = .03$ .

Rickels K et al. *Am J Psychiatry*. 2000;157:968-974.

# Paroxetine GAD Study

## HAM-A Total Score



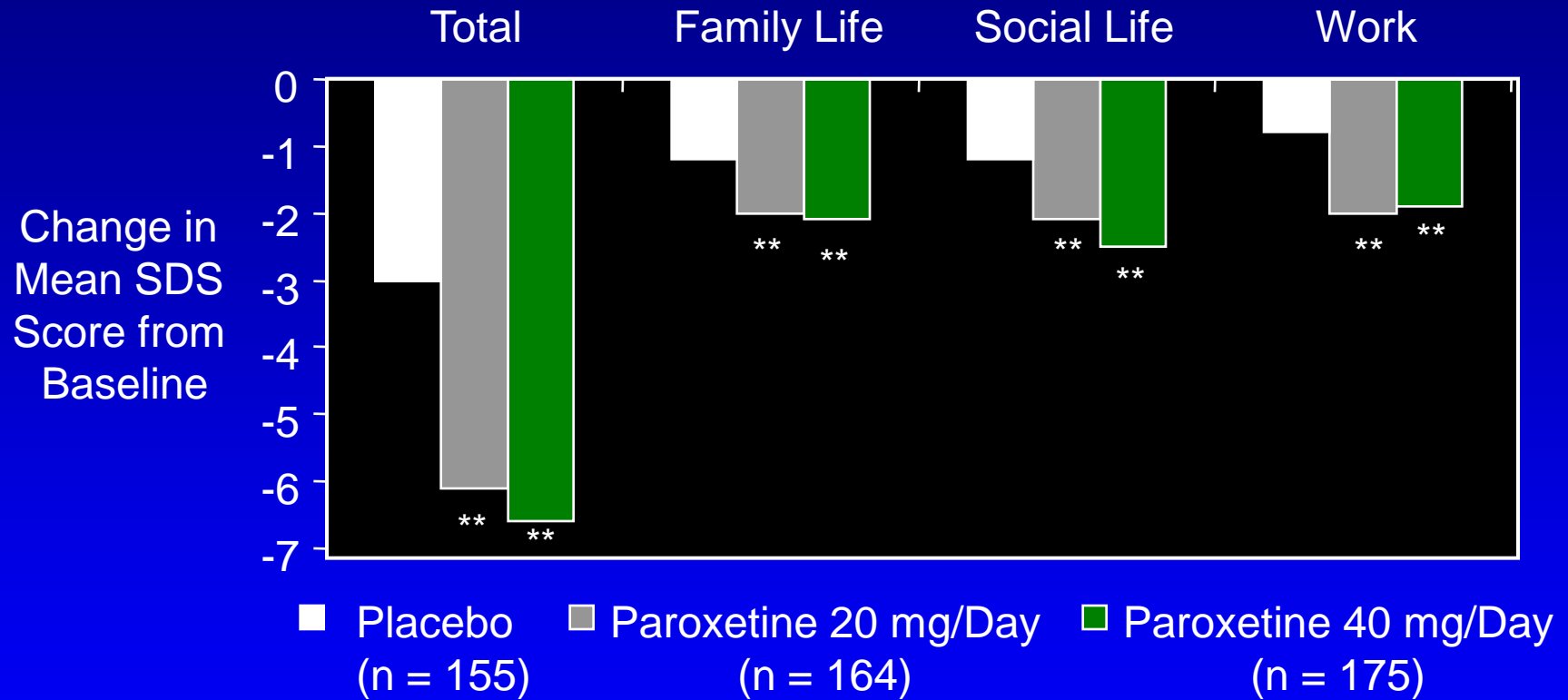
LOCF dataset.

\* $P < .05$  vs placebo.

Pollack MH et al. *J Clin Psychiatry*. 2001;62:350-357.

# Paroxetine Fixed-Dose GAD Study

## *Improvement in Disability*



LOCF population.

SDS = Sheehan Disability Scale; reduction in score indicates clinical improvement.

\*\* $P \leq .01$  vs placebo.

Bellew JG et al. Presented at: 153rd Annual Meeting of the APA; May 13-18, 2000; Chicago, Ill.



# Benzodiazepines for GAD

- **GAD**
  - Highly comorbid with depression
  - Often requires long-term therapy
- **Benzodiazepines**
  - Not effective for depression
  - Not considered ideal as *monotherapy* treatment
  - Useful as adjunctive medication for many patients

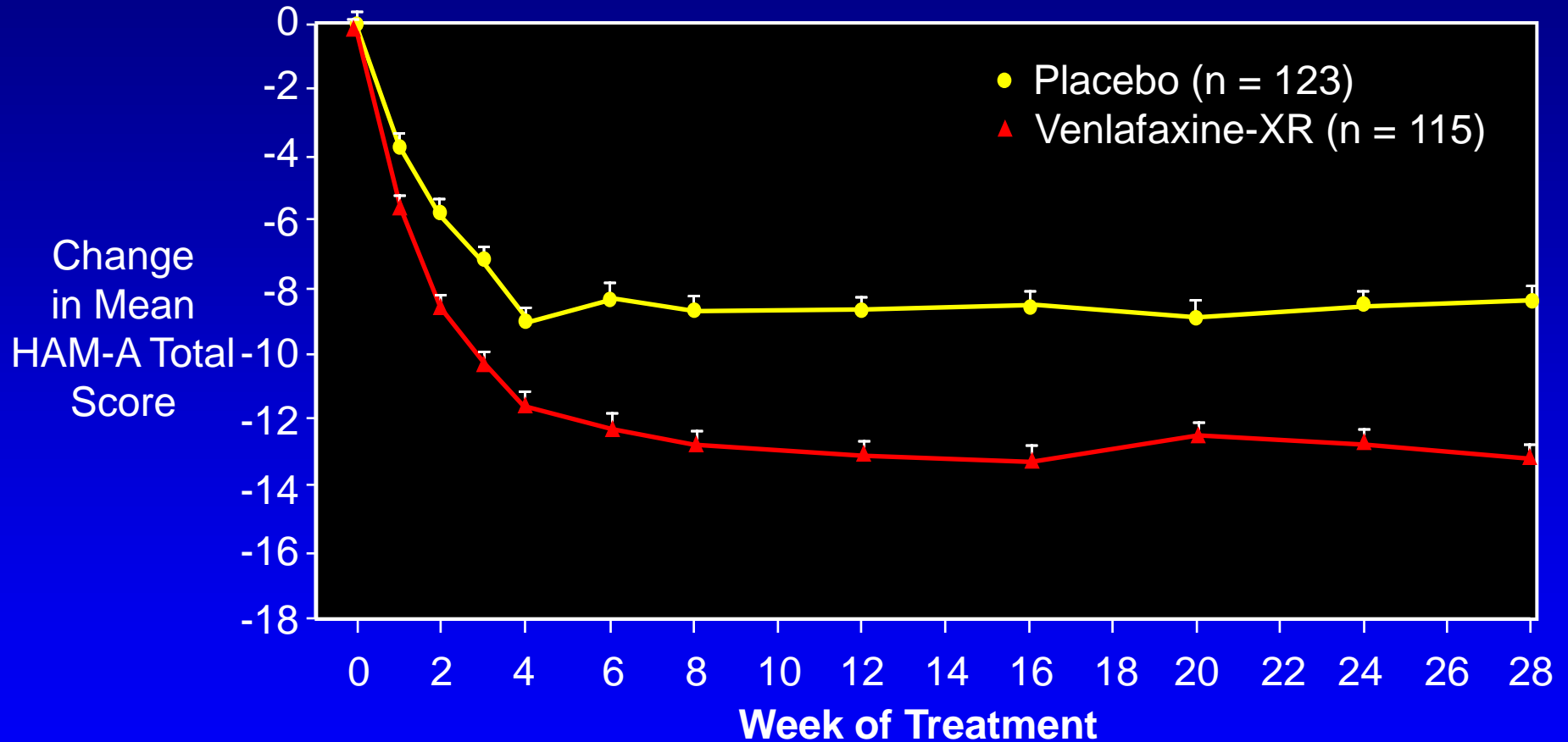
# Long-Term Treatment of GAD

- **Need to treat for long term**
- **Full relapse in approximately 25% of patients 1 month after stopping treatment**
- **60%-80% relapse within 1st year after stopping treatment**

Hales RE et al. *J Clin Psychiatry*. 1997;58(suppl 3):76-80.

Rickels K, Schweizer E. *J Clin Psychopharmacol*. 1990;10(3 suppl):101S-110S.

# Effect of Venlafaxine on Total HAM-A Scores

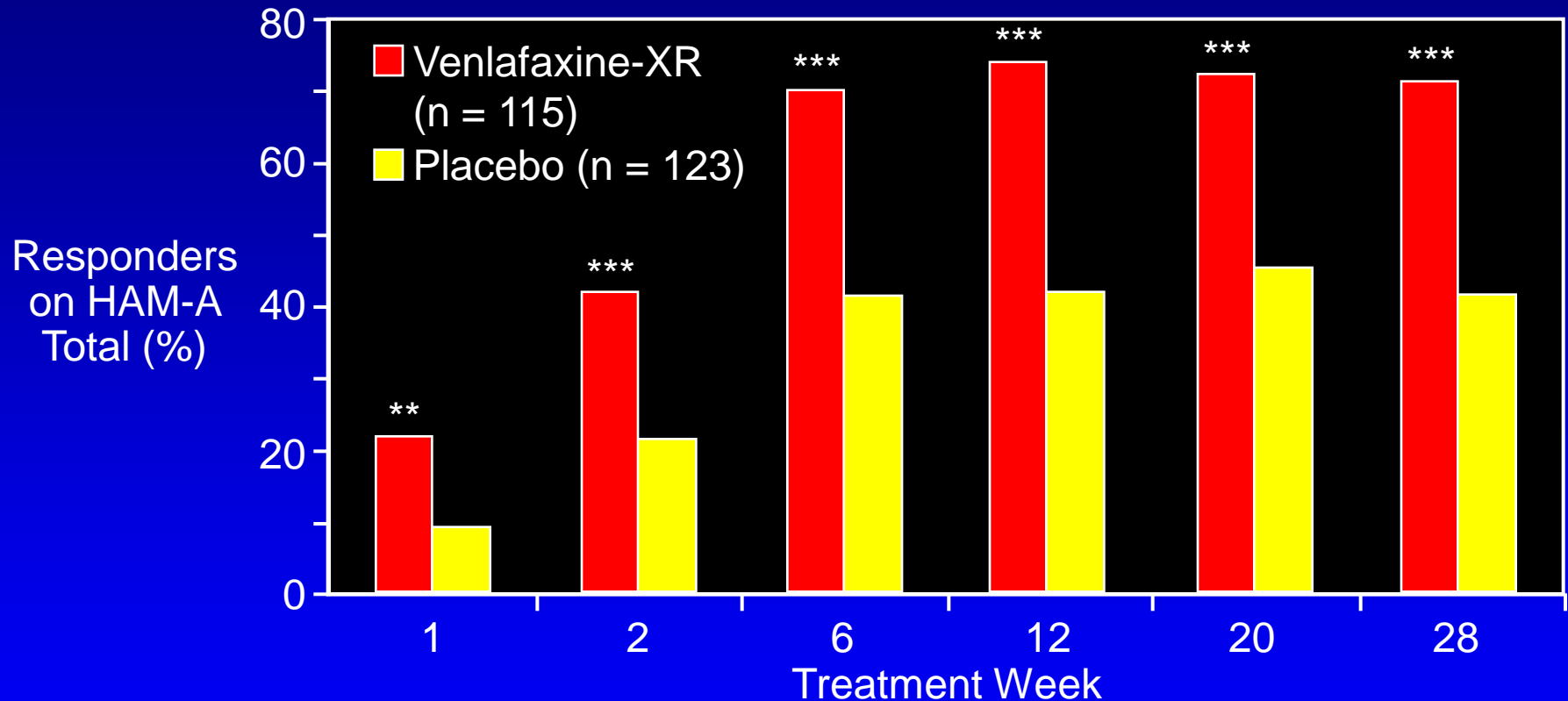


$P < .001$  for venlafaxine-XR vs placebo for all study weeks except week 1 (.003), week 4 (.002), and week 20 (.007).

Venlafaxine-XR doses: 75 to 225 mg/day.

Gelenberg, Lydiard et al. *JAMA*. 2000;283:3082-3088.

# Long-Term Response\* to Venlafaxine-XR in GAD



\*Response defined as  $\geq 40\%$  reduction from baseline HAM-A total.

\*\*  $P < .01$  vs placebo.

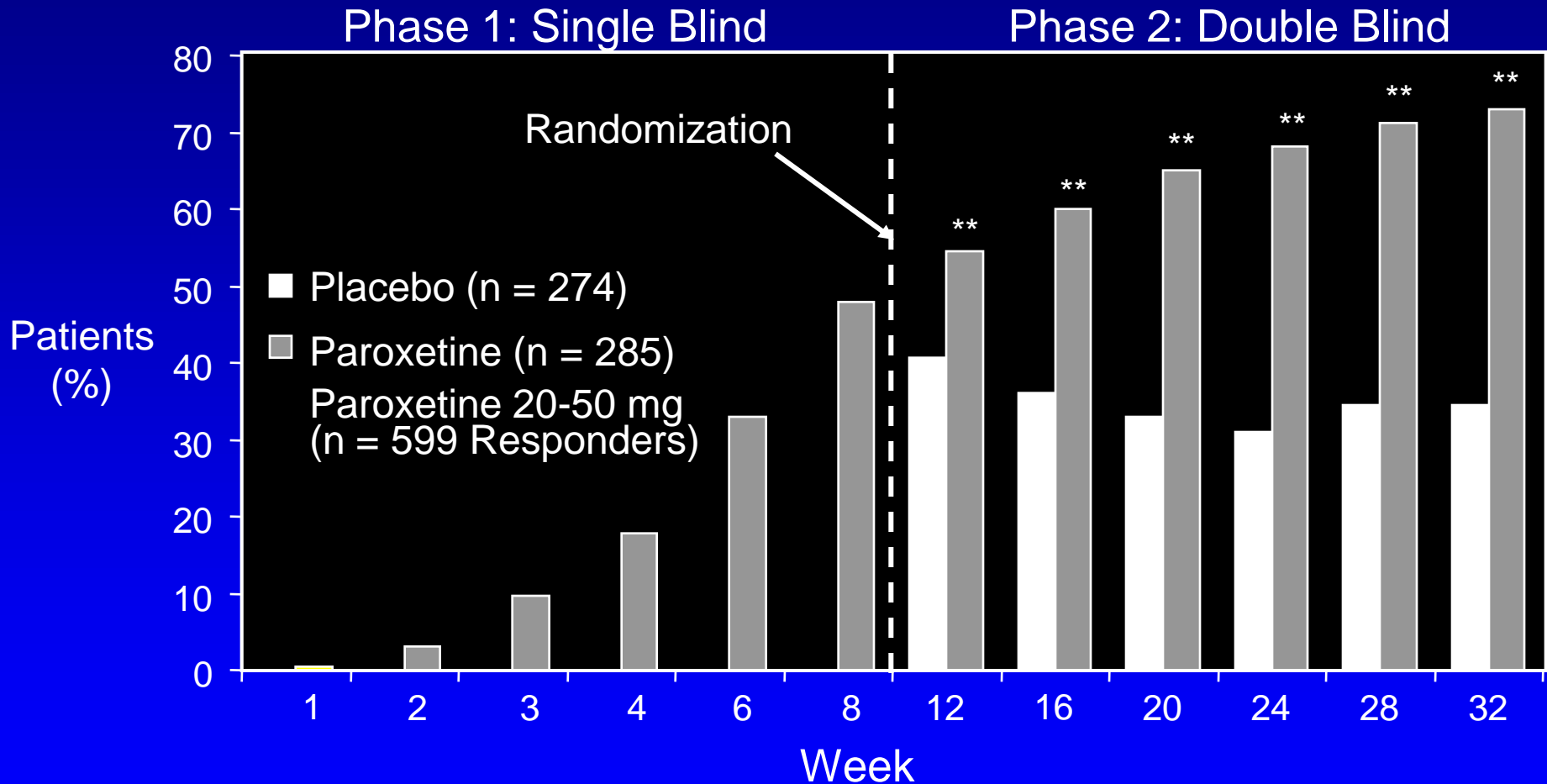
\*\*\*  $P < .001$  vs placebo.

OC/LOCF analysis.

Gelenberg, Lydiard et al. *JAMA*. 2000;283:3082-3088.

# Paroxetine Long-Term GAD Treatment

## % Remission



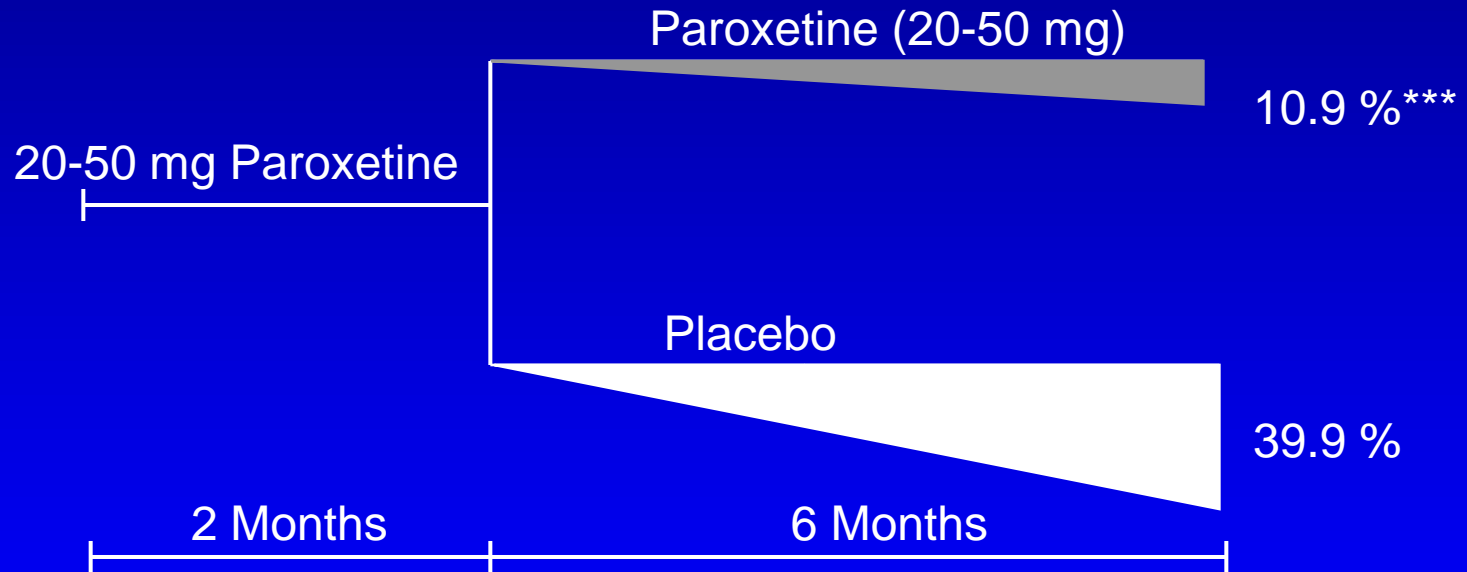
\*\* $P < .01$  vs placebo.

Remission = HAM-A  $\leq 7$ ; LOCF dataset.

Pollack, M Presented at the 154rd Annual Meeting of the APA; May 2002; Philadelphia, PA

# Paroxetine Long-Term GAD Treatment

## Full Relapse Rates



\*\*\*  $P < .001$ ;  $N = 286/274$ ; LOCF.

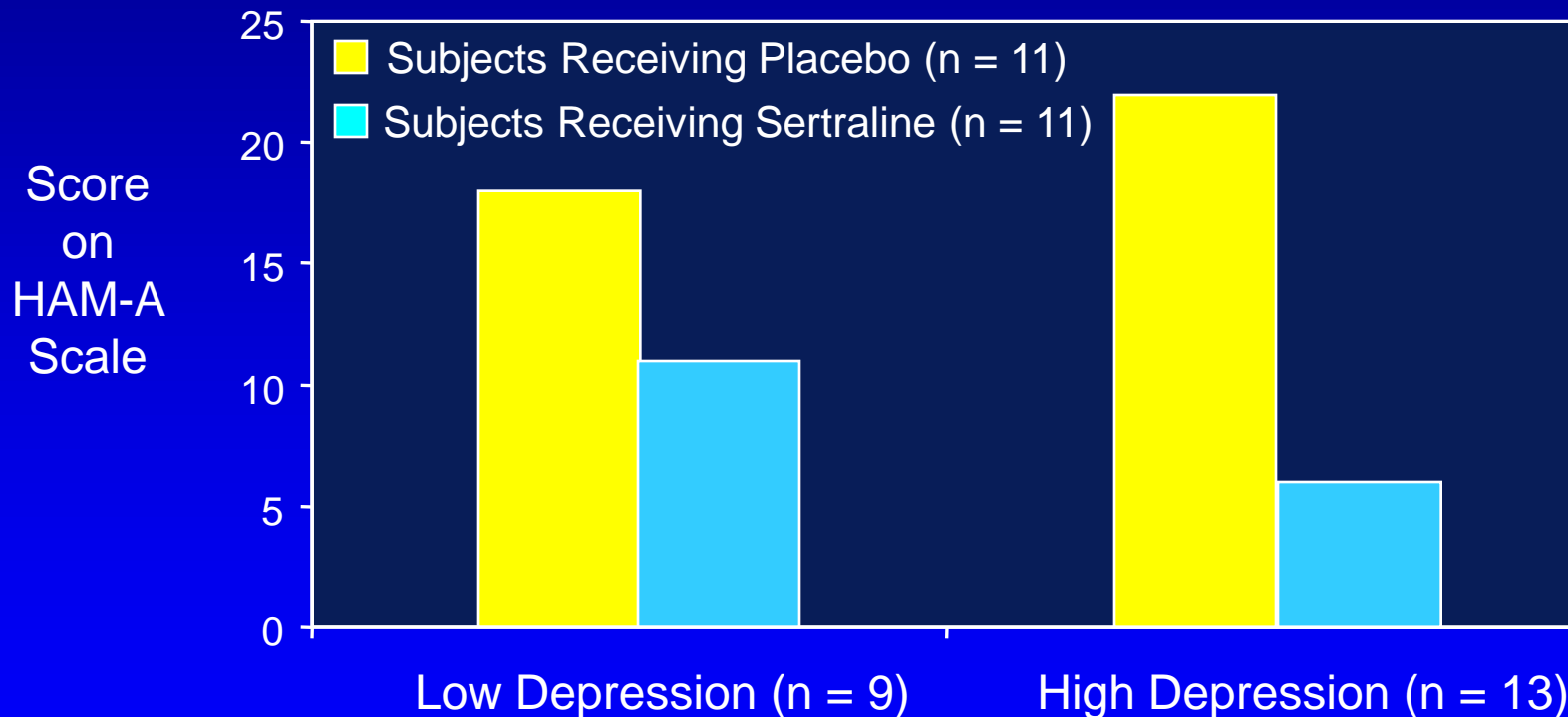
Pollack, M Presented at the 154rd Annual Meeting of the APA; May 2002; Philadelphia, PA

# Placebo-Controlled Trial of Sertraline in the Treatment of Children with GAD

- **N = 22**
- **2-3 week run-in, 9 weeks of double-blind treatment with sertraline or placebo**
- **Primary diagnosis of GAD; excluded MDD, OCD, MR, ADD**
- **Ages 5-17 years (mean  $11.7 \pm 3.9$  years)**
- **Sertraline dose: 25 mg/d for week 1; 50 mg/day weeks 2-9**

# Placebo-Controlled Trial of Sertraline in the Treatment of Children with GAD

Mean Total Scores on Hamilton Anxiety Rating Scale at 9 Weeks\*



\*LOCF. Low and high depression severity indicated by Hamilton Depression Rating Scale scores  $\leq 10$  and  $> 10$ , respectively.

Rynn MA et al. *Am J Psychiatry*. 2001;158:2008-2014.



# Efficacy of Antidepressants in Anxiety

Efficacy	PD	GAD	SP	OCD	PTSD	MAD
	MAOIs SSRIs TCAs Venlafaxine	Venlafaxine TCAs SSRIs Trazodone	MAOIs SSRIs Venlafaxine	SSRIs [CMI]	SSRIs	SSRIs
<b>Some evidence</b>	Mirtazapine Nefazodone	Mirtazapine Nefazodone		MAOIs	Venlafaxine MAOIs TCAs Bupropion Nefazodone Trazodone Mirtazapine	Mirtazapine Venlafaxine MAOIs TCAs Nefazodone Trazodone
<b>Not effective</b>	Trazodone Bupropion		Bupropion Nefazodone TCAs	TCAs Trazodone		
<b>No data</b>		MAOIs Bupropion	Mirtazapine Trazodone	Venlafaxine Nefazodone Bupropion Mirtazapine		Bupropion

# Anticonvulsants Potentially Useful as Adjunctive GAD Treatment

- Vigabatrin
  - Inhibits GABA transaminase
- Topiramate
  - Acts at ion-gated channels
- Tiagabine
  - Inhibits GABA reuptake
- Gabapentin
  - GABAergic anxiolytic, novel mechanism
  - Pilot study evidence of efficacy in PD, SP, EtOH withdrawal
- *Utility in anxiety disorders not known*
- Pregabalin-clearly effective for GAD but not yet available in USA

# Strategies for Refractory GAD

- Evaluate treatment intensity
  - Dose and duration of antidepressant Rx?
- Switch to a second SSRI/antidepressant
- Add benzodiazepine
- Add buspirone
- Add GABAergic anticonvulsants
  - Gabapentin tiagabine, vigabatrin, topiramate,
- Add low dose atypical neuroleptics
- Review psychosocial variables for stress management
- Add CBT

Most suggestions from clinical experience  
Coplan et al JCP 154 (supp) 63-74,1993

**Part II-May be used separately or  
used with Part I**

# **Future Strategies for Anxiety Disorders**

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**Clinical Professor of Psychiatry  
University of South Carolina  
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**and**

**Director, Southeast Health Consultants  
Charleston SC**

# Traditional Anxiolytics

## *Limitations*

- **Poor tolerability (TCAs, MAOIs)**
  - *SSRIs-Less than ideal*
- **Limited breadth of efficacy (TCAs, BZDs, MAOIs?)**
- **Lack of antidepressant efficacy (buspirone?, BZDs)**
- **Safety (TCAs, MAOIs)**

# Anticonvulsants

- Carbamazepine
- Valproic acid
  - *Both have some GABAergic action (VPA > CBZ)*
  - *Marginal antidepressants*
  - *Breadth of efficacy not clear*

# Anticonvulsants

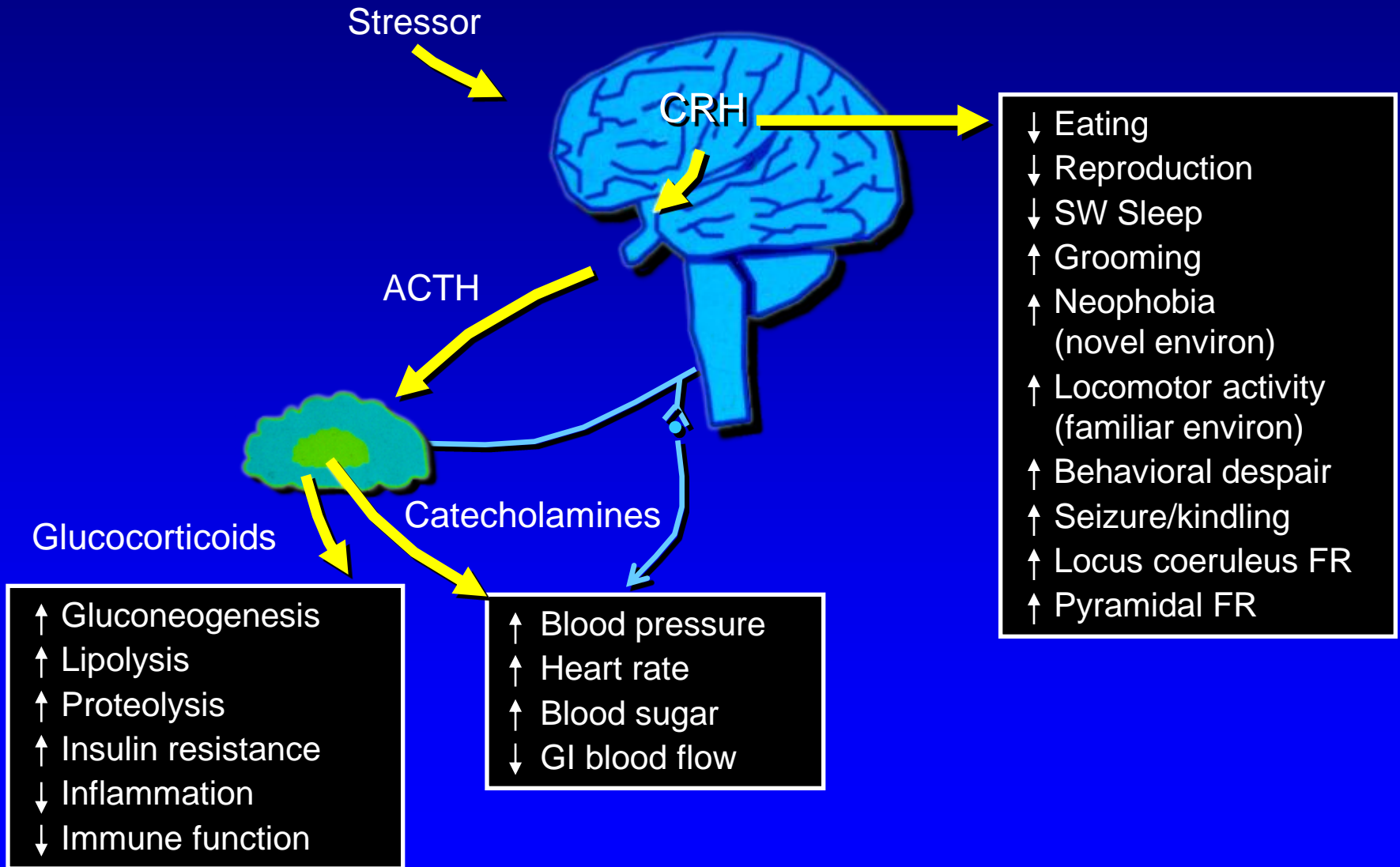
- Vigabatrin
  - Inhibits GABA transaminase
- Topiramate
  - Acts at ion-gated channels
- Tiagabine
  - Inhibits GABA reuptake
- Gabapentin
  - GABAergic anxiolytic, novel mechanism
  - Pilot study evidence of efficacy in PD, SP, EtOH withdrawal
- *Utility in anxiety disorders not known*



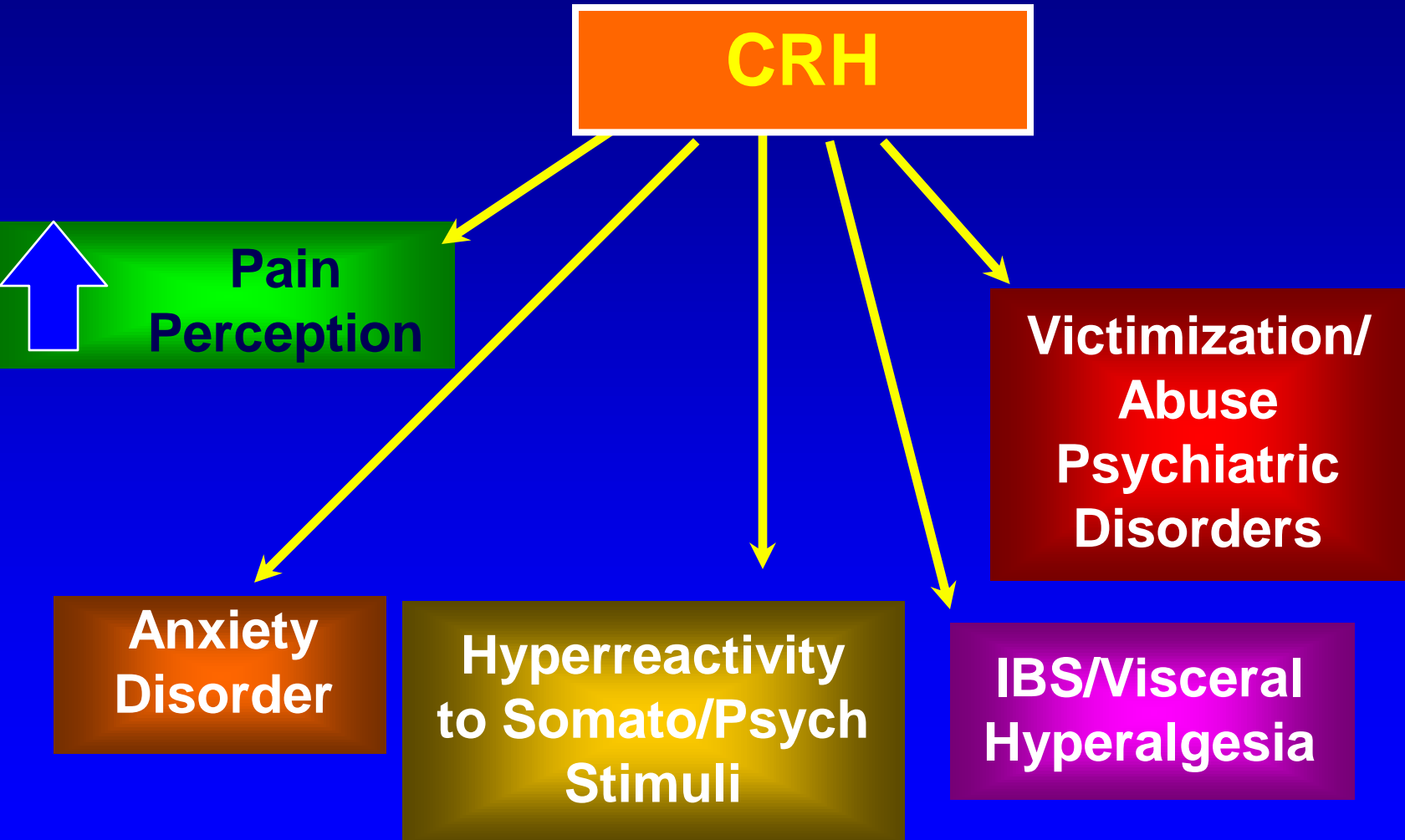
# Bad News Peptides

- **Corticotropin-releasing factor (CRF)**
- **Cholecystokinin (CCK)**
- **Substance P**

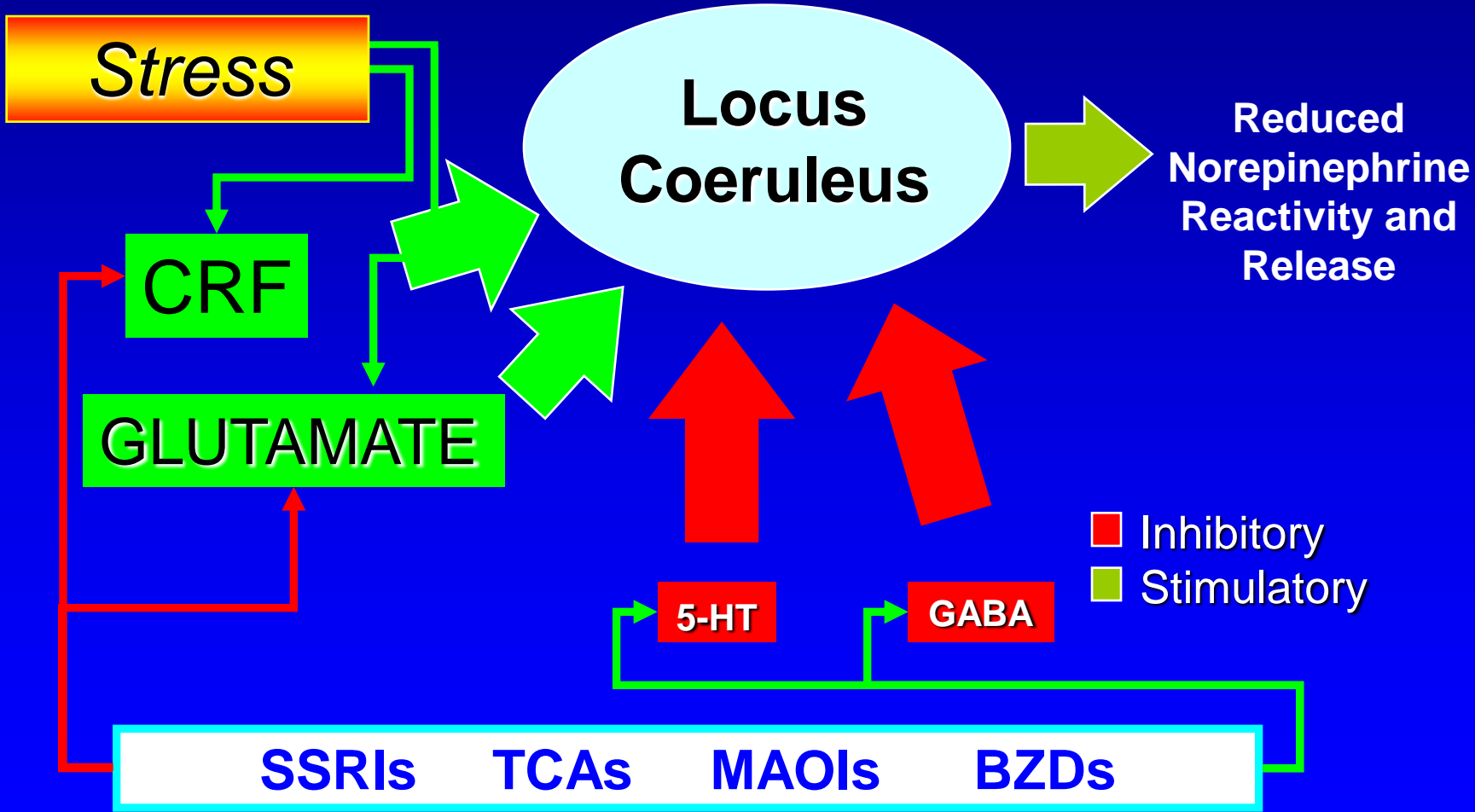
# CRF and Acute Stress



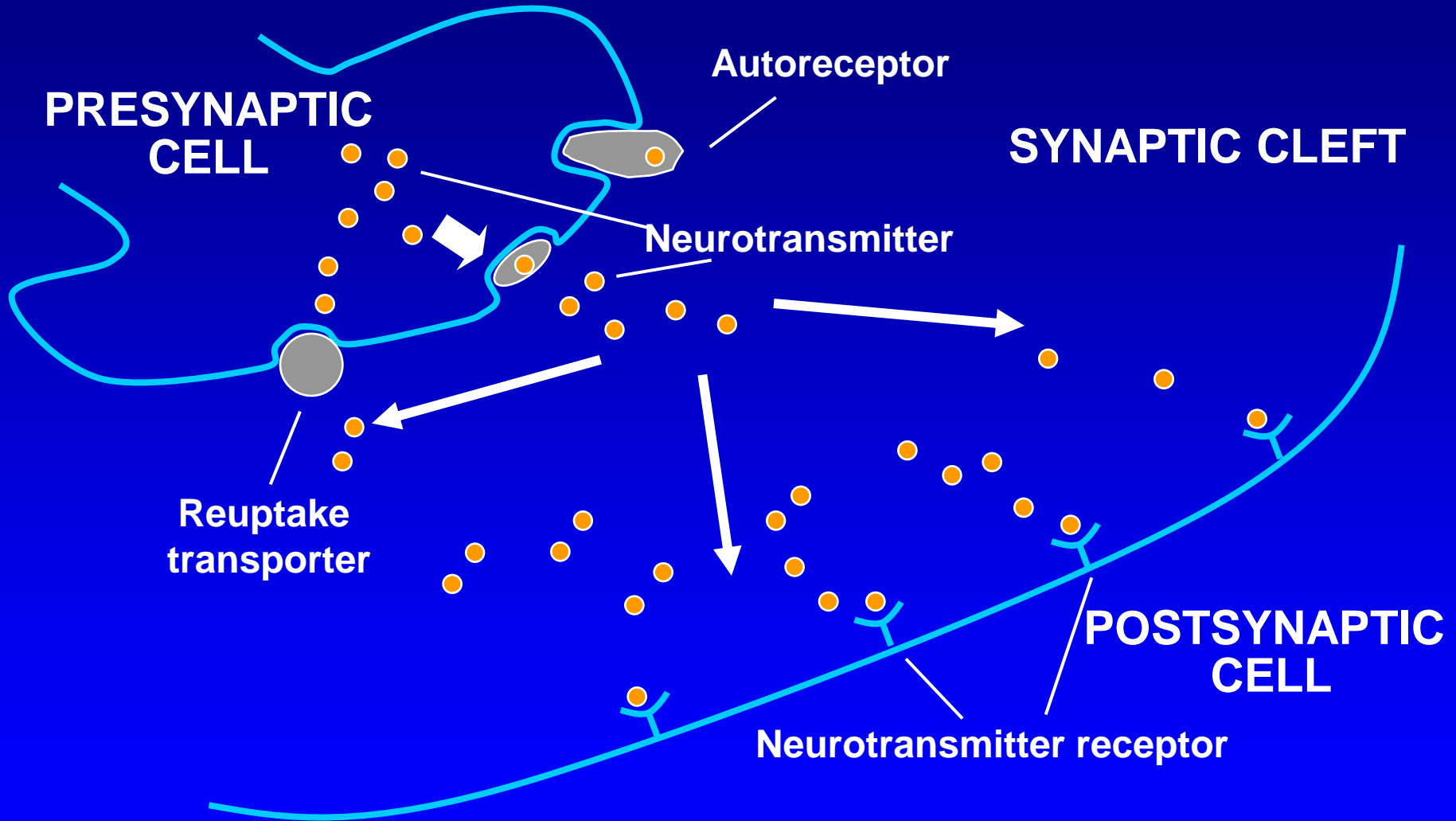
# CRF Role in Stress Related Illnesses



# Locus Coeruleus System as a Site of Action for Psychotropics



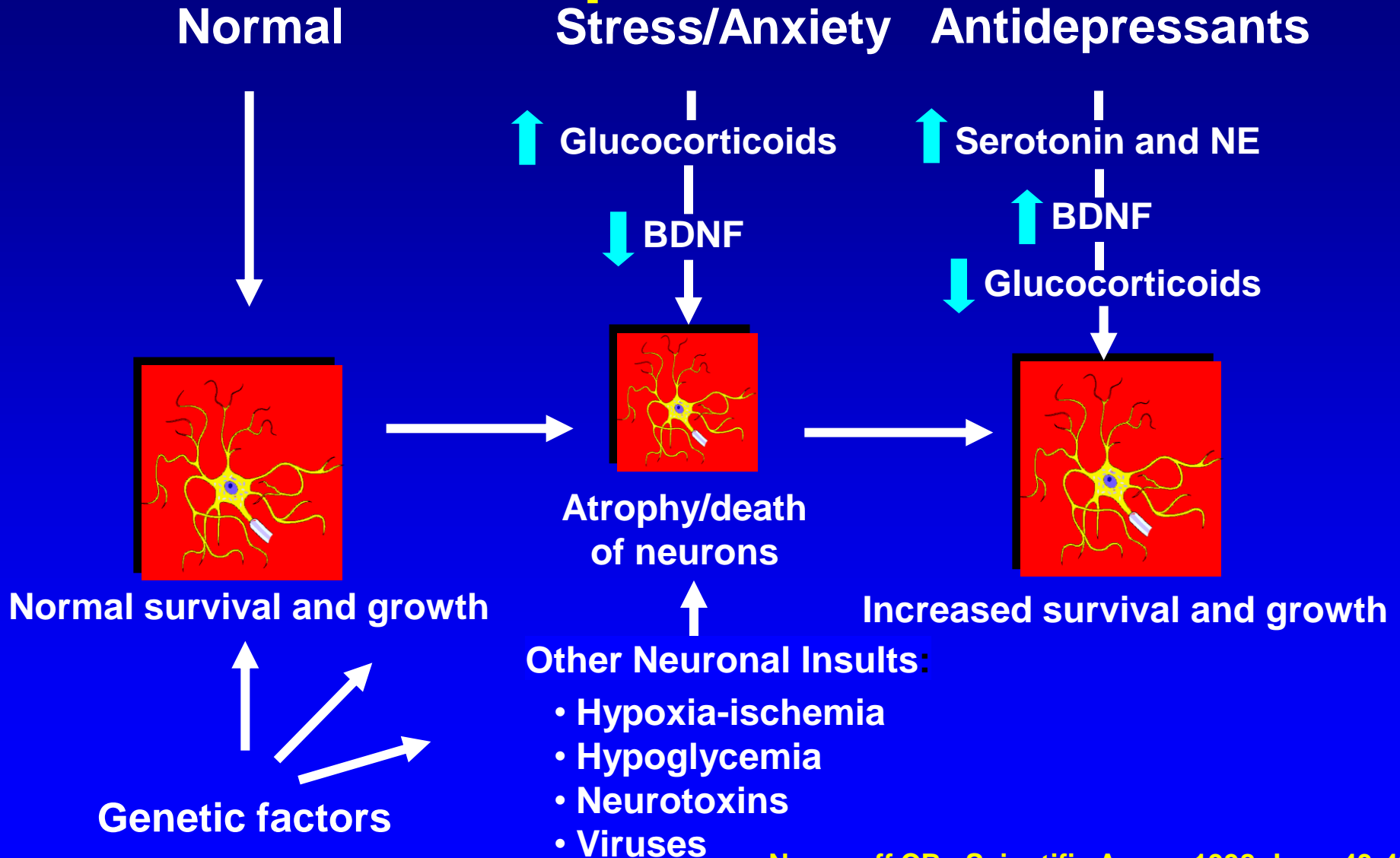
# Neurotransmitters—Mechanisms of Action



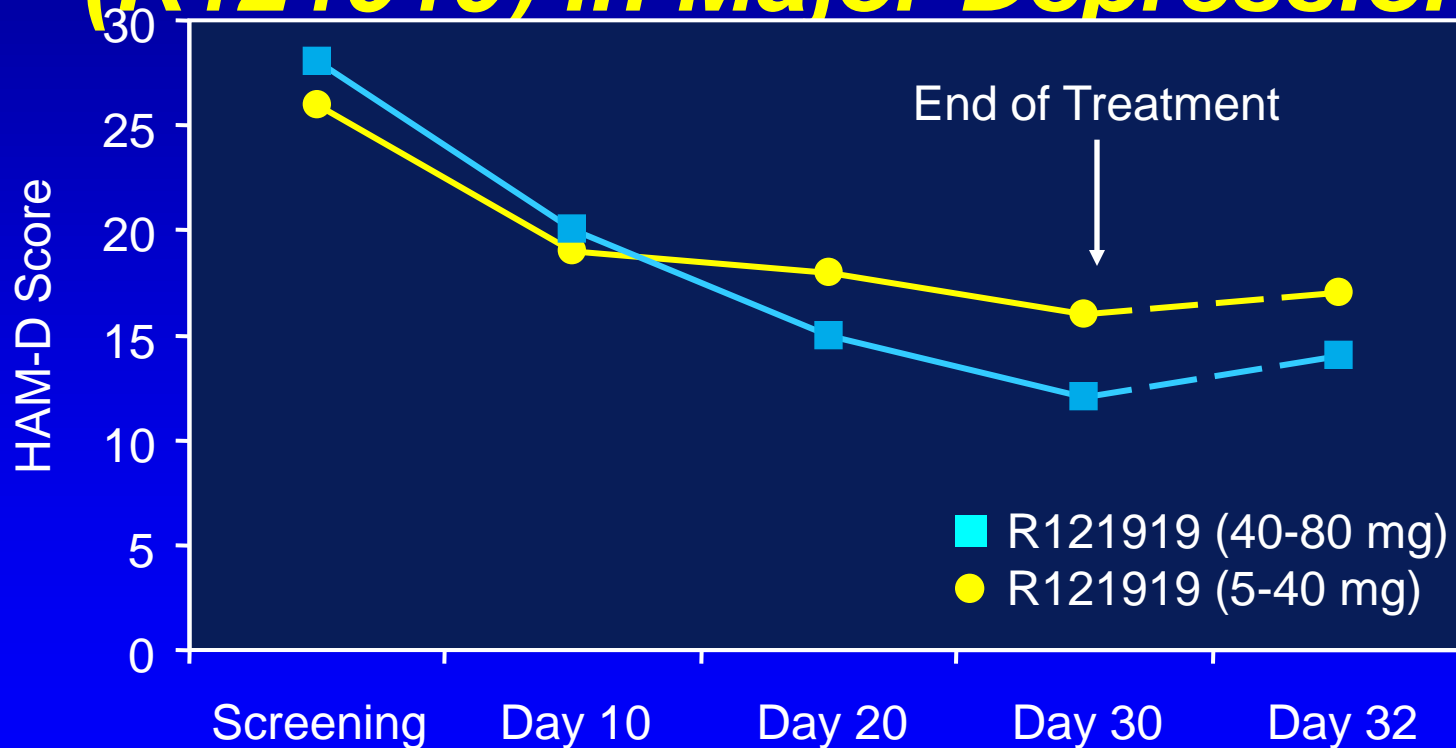
# Antidepressants: Transductional Targets of Action

- Antidepressants increase NE, 5-HT or both
- Activate transductional cascades
  - Activate or inhibit the synthesis of specific gene products
- Multiple, synergistic mechanisms likely

# Hypothesis of Stress, Anxiety and Depression



# The First 20 Patients: *Effects of the High-Affinity CRF 1 Antagonist (R121919) in Major Depression*



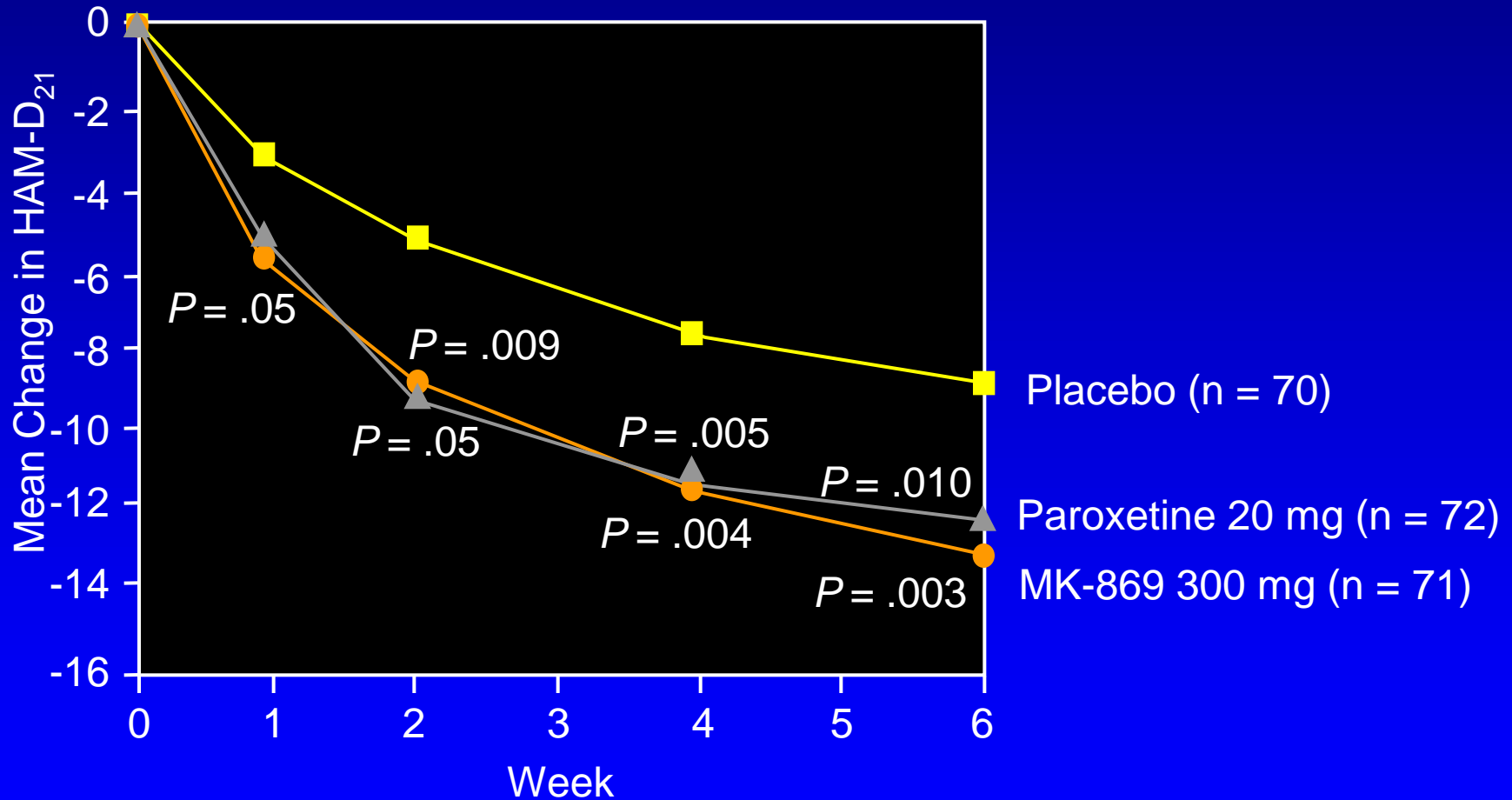
Zobel AW et al. *J Psychiatr Res.* 2000;34:171-181.



# Substance P Antagonists

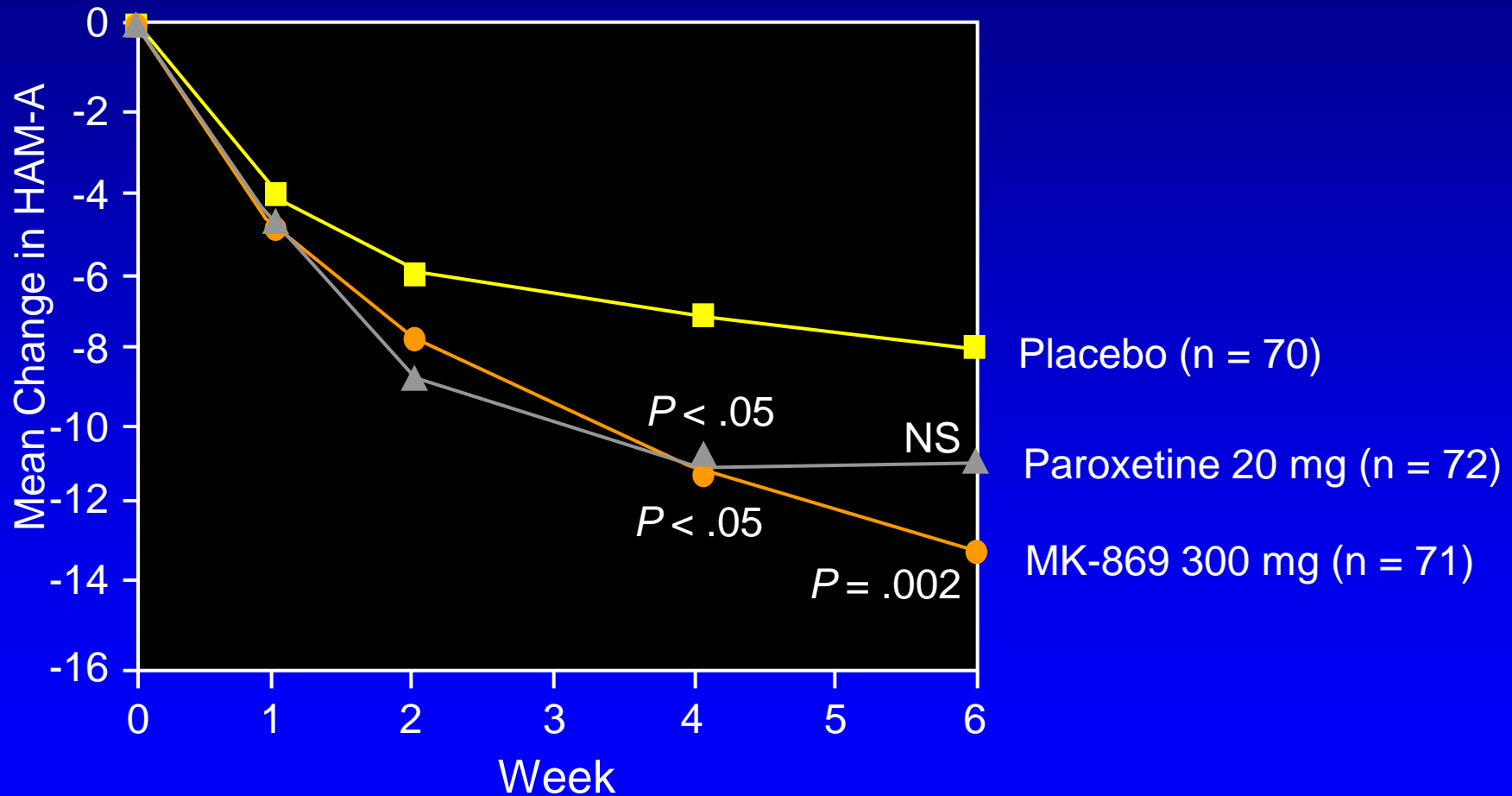
- Substance P  $\Rightarrow$  anxiety, depression, pain
- Three receptors identified in CNS
- MK-869: nonpeptide NK<sub>1</sub> receptor antagonist
- Oral, once-daily formulation

# Effect of MK-869 and Paroxetine on Depression



Kramer MS et al. *Science*. 1998;281:1640-1645.

# Effect of MK-869 and Paroxetine on Anxiety



Kramer MS et al. *Science*. 1998;281:1640-1645.

# **Glutamatergic System**

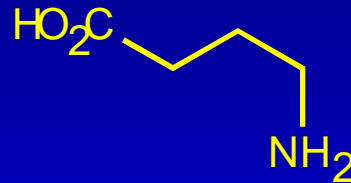
## **mGLU Agonists**

- **Novel presynaptic mechanism**
- **Decreases excitatory neurotransmitter glutamate release**
- **May modulate GABA transmission**

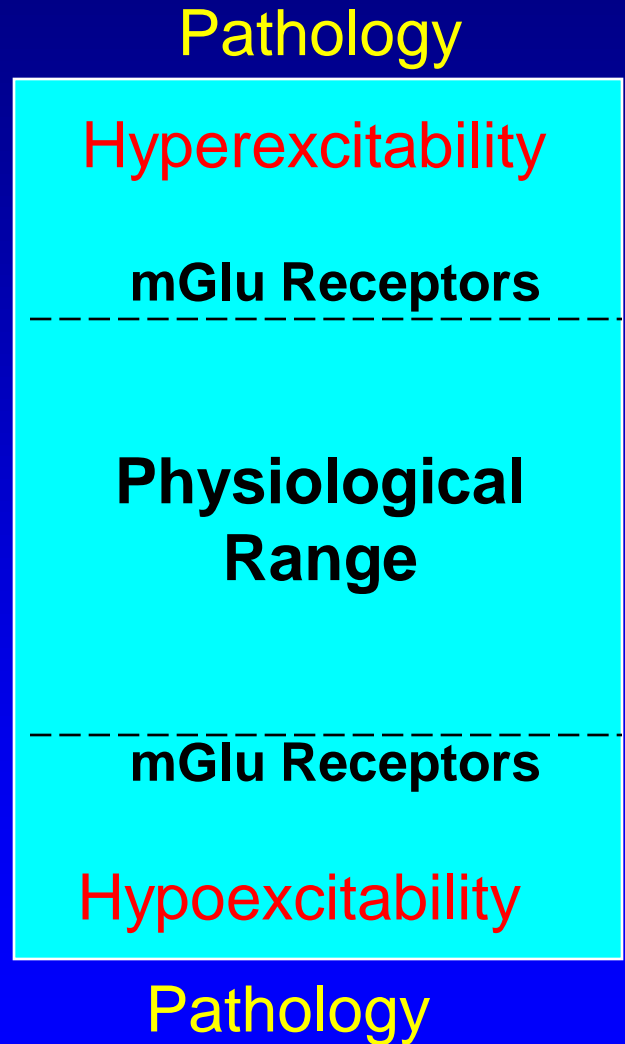
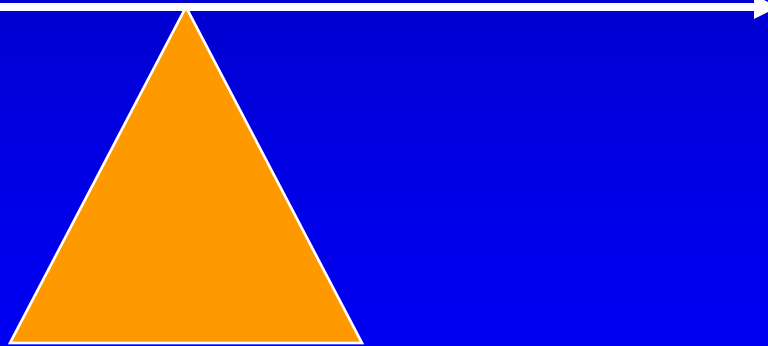
# Glutamatergic-GABAergic Interactions



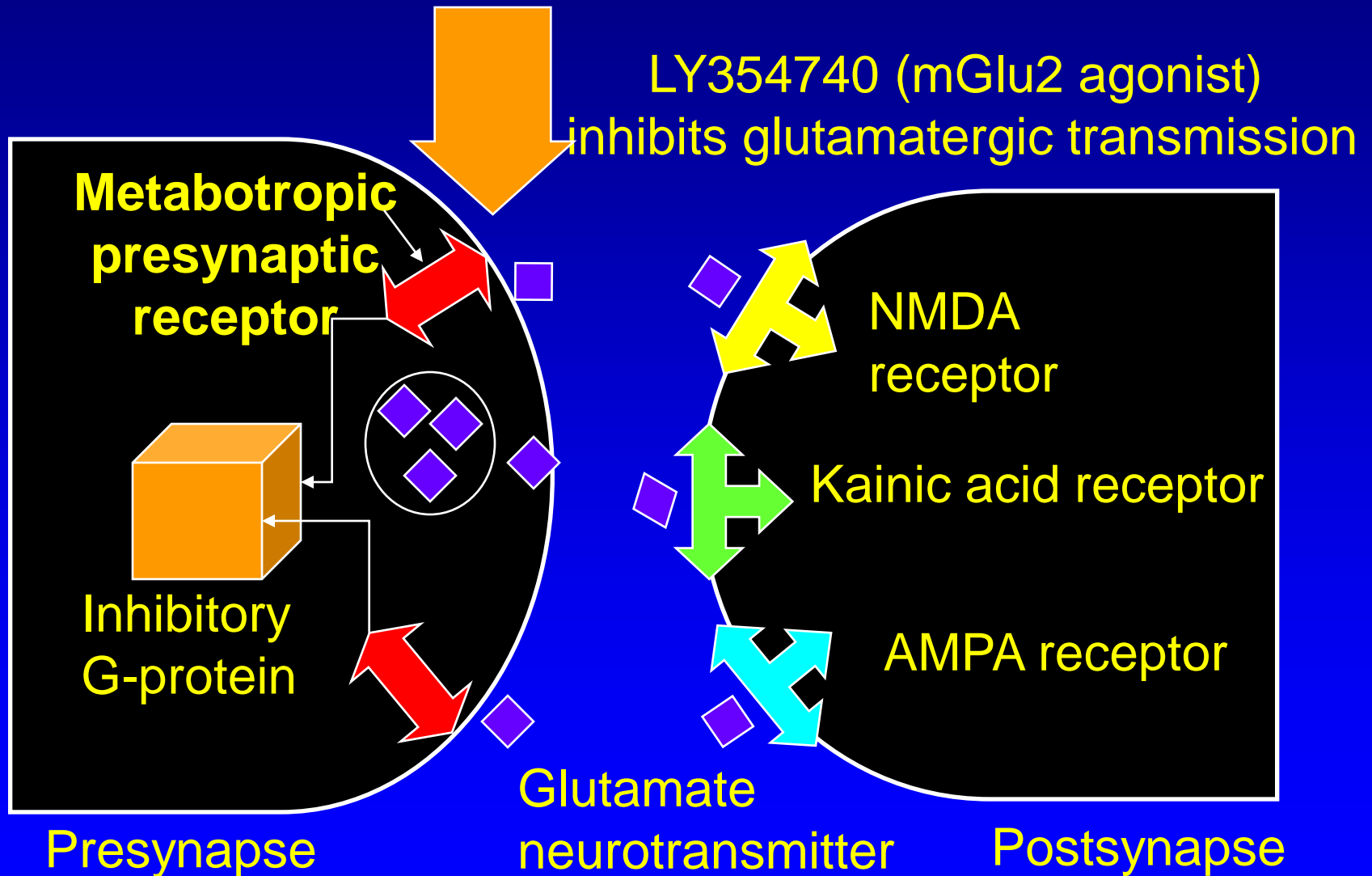
Glutamate



GABA



# Schema of Glutamatergic Neurotransmission



# Partial BZD Agonists

- **Pagoclone**
  - Effective in panic disorder
  - In development
- **Abecarnil**
  - Some effect in GAD, not sustained?
- **Others in pipeline**

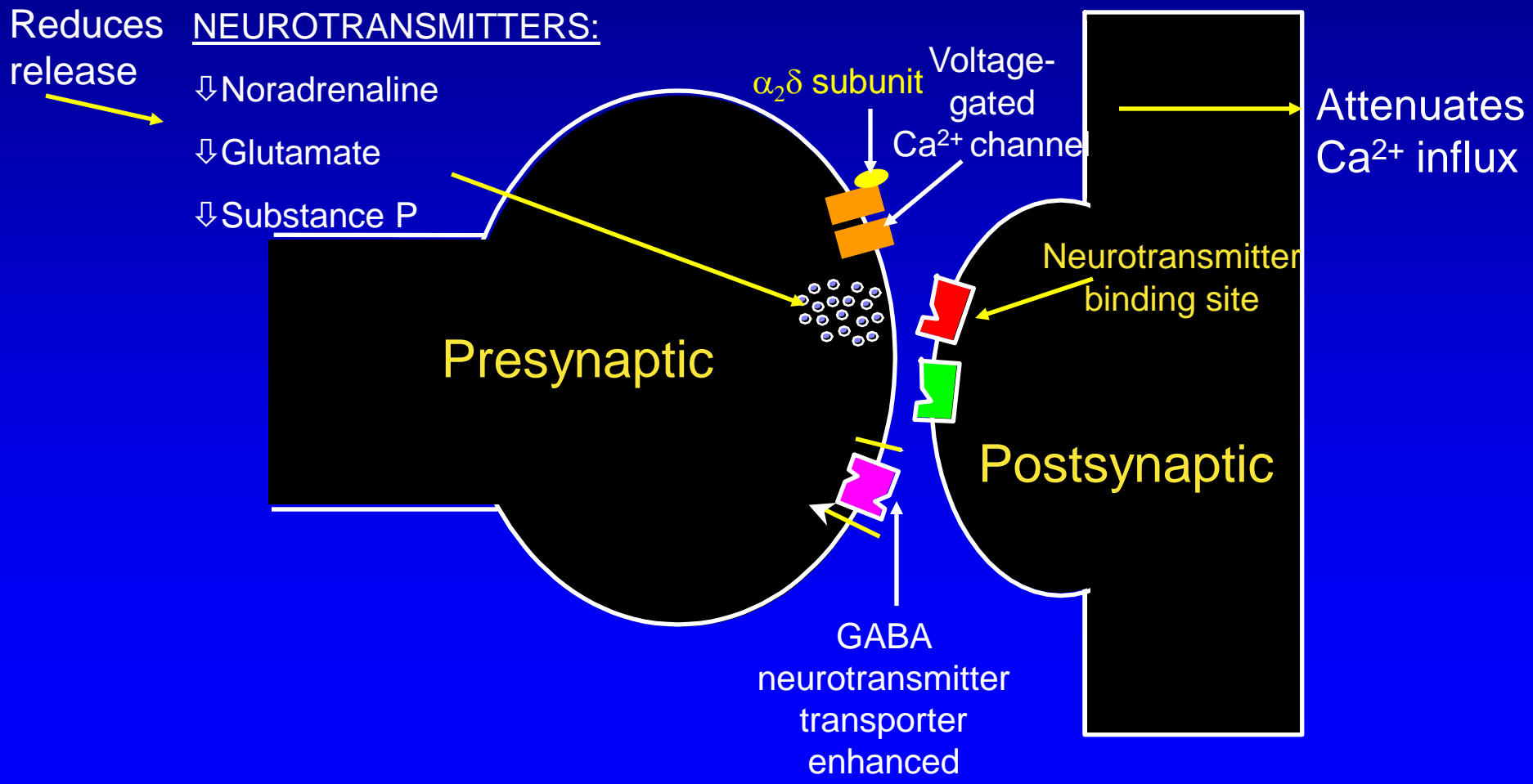
# BZD Receptor Subunit Agonists

- GABA-A<sub>1a</sub>
  - Sedation, anxiolytic
- GABA-A<sub>2a</sub>
  - Anxiolytic
- GABA-A<sub>3a</sub>
  - Muscle relaxation
- GABA-A<sub>5a</sub>
  - Memory, muscle relaxant

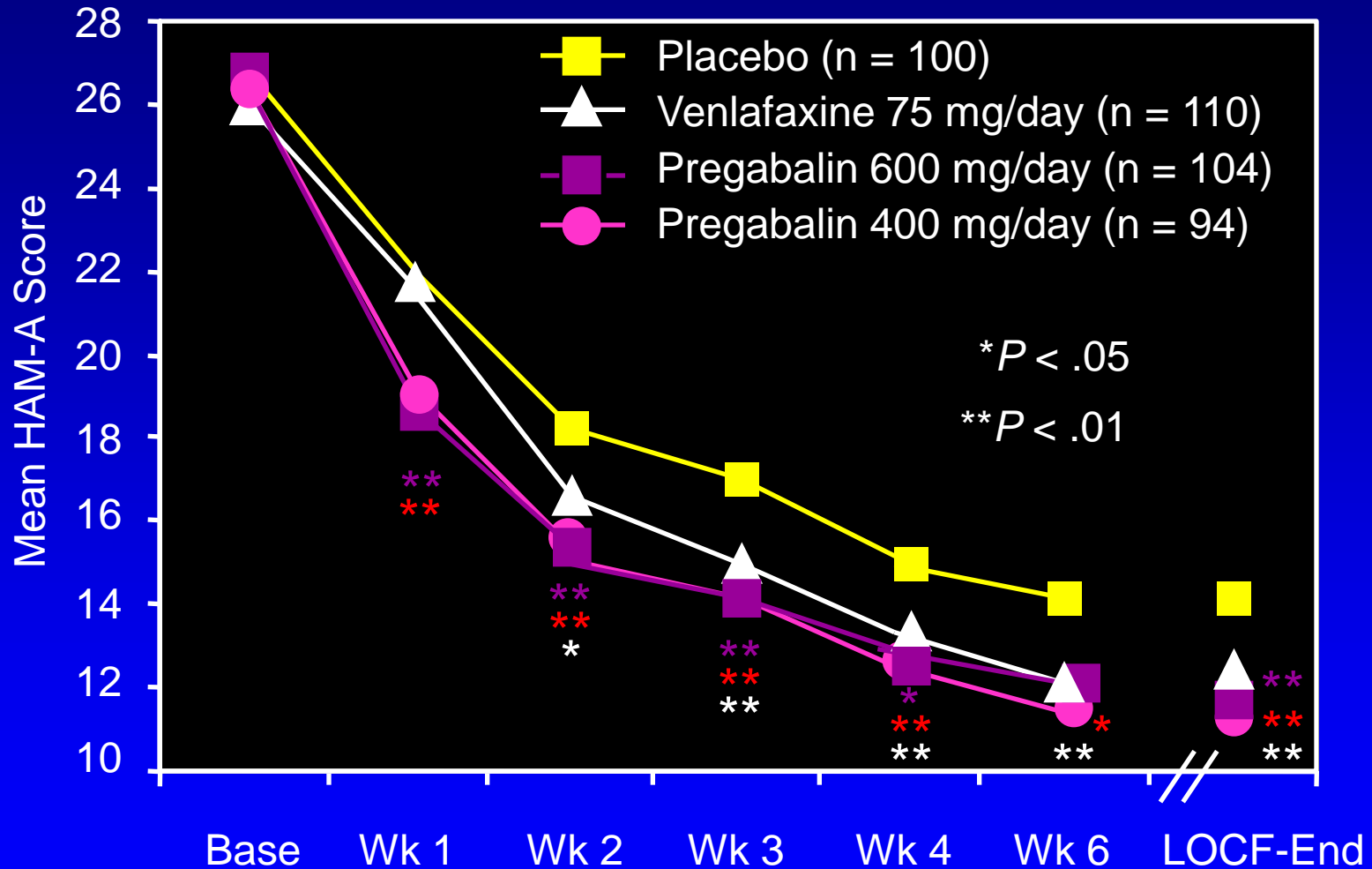


# Pregabalin Novel Mechanism: *$\alpha_2\delta$* Binding Inhibitory Effect

## Synapse



# Pregabalin vs Venlafaxine IR Study in GAD



All medication doses b.i.d.  
Data on file, Pfizer Inc.

# Pregabalin: *Summary*

- Novel Mechanism
- Comparable to BZDs in GAD
- Optimal dosing likely 150-450 mg daily
- b.i.d. dosing
- Little to no abuse potential
- No evidence of dependence
- *Antidepressant efficacy unclear*

# Summary and Conclusions

- **The future looks bright**
- **Research is active**
- **Better tolerability**
- **Comparable efficacy**
- **Polypharmacy possibilities**

# Post Lecture Exam

## Question 1

1. Epidemiological studies indicate that the lifetime prevalence of generalized anxiety disorder is:
  - A. 17.1%
  - B. 0.7%
  - C. 5.1%
  - D. 24.9%
  - E. 13.3%

## Question 2

- 2. Which of the following symptoms is most frequently present in patients with generalized anxiety disorder?**
- A. Panic attacks**
  - B. Feeling a detachment and estrangement from others.**
  - C. Markedly diminished interest in significant activities**
  - D. Disturbed sleep**
  - E. Fear of being home alone**

## Question 3

- 3. In contrast to patients with generalized anxiety disorder, subjects with hyperthyroidism:**
- A. Experience fatigue**
  - B. May have tachycardia**
  - C. May complain of heat intolerance**
  - D. Present with irritability**
  - E. Always present with goiter**

# Question 4

4. Which one of the following statements is true about comorbidity in generalized anxiety disorder?
- A. Panic disorder is the most common coexisting psychiatric disorder.
  - B. Approximately 25% of patients have a comorbid psychiatric disorder.
  - C. Major depression rarely co-occurs with generalized anxiety disorder.
  - D. Borderline personality disorder is the most prevalent Axis II disorder in these patients.
  - E. Social phobia is the most prevalent coexisting comorbid psychiatric disorder.



## Question 5

5. Which of the following statements about childhood presentation of generalized anxiety disorder is true?
- A. The disorder is uncommon in children and adolescents.
  - B. 10% of children with overanxious anxiety disorder have a comorbid psychiatric disorder.
  - C. They often appear overcompliant and perfectionistic.
  - D. They often experience significant separation anxiety.
  - E. They respond well to treatment with propranolol.

## Question 6

6. Which of the following compounds have demonstrated efficacy in the treatment of generalized anxiety disorder?
- A. Lithium
  - B. Tranylcypromine
  - C. Trazodone
  - D. Bupropion
  - E. Pimozide

# Question 7

- 7. Which of the following statements is true regarding the use of buspirone for generalized anxiety disorder?**
- A.** The onset of action is immediate, often as rapid as that of alprazolam.
  - B.** Buspirone may be administered once a day.
  - C.** Patients frequently report drowsiness and sedation.
  - D.** Buspirone carries no risk of dependence or withdrawal symptoms.
  - E.** Optimal response is usually achieved at a dose of 15 mg per day.

# Question 8

- 8. Which of the following is true regarding generalized anxiety disorder in the elderly?**
- A.** The prevalence of generalized anxiety disorder in the elderly is low.
  - B.** The long acting benzodiazepine diazepam is the preferable medication in these patients.
  - C.** Hepatic clearance of anxiolytic medications is decreased in the elderly.
  - D.** The use of TCA's is contraindicated in the elderly.
  - E.** Elderly patients require higher doses of buspirone in order to achieve therapeutic effect.

# Answers to Pre & Post Competency Exams

1. C
2. D
3. C
4. E
5. C
6. C
7. D
8. C