OVERVIEW OF ANXIETY DISORDER

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WHAT ARE ANXIETY DISORDERS?

- A group of 8 diagnosable disorders
  - some shared features
  - some distinct
- The most prevalent group of psychiatric conditions

SHARED CLINICAL FEATURES

- Triggered by neutral stimuli
- Maladaptive thinking patterns: tend to catastrophize, misjudge probability
- Prominent physical symptoms: autonomic arousal
- Typical behavioral responses: escape, avoidance, help-seeking

Anxiety and Perfomance

- The **Yerkes–Dodson law** 1908
  The law dictates that performance increases with physiological or mental arousal, but only up to a point. When levels of arousal become too high, performance decreases.
  The process is often illustrated graphically as a bell-shaped curve which increases and then decreases with higher levels of arousal.
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DISTINCT CLINICAL FEATURES

Panic Disorder

- "spontaneous" panic
- Fear of bodily sensations

Agoraphobia

- Fear/avoid being alone or being trapped

Generalized Anxiety Disorder

- Worry about everyday things

Specific Phobia

- Fear of specific situation or activity

Social Phobia

- Fear of Scrutiny and negative evaluation

Obsessive Compulsive Disorder

- Intrusive unwanted thoughts
- Repetitive ritualistic behaviors

Posttraumatic Stress Disorder

- Exposure to violence
- Intrusive thoughts, images
- Avoidance
- Hyperarousal

WHY ARE ANXIETY DISORDERS IMPORTANT?

THE MOST PREVALENT PSYCHIATRIC DISORDERS IN ADULTS

	MALE	**FEMALE**
	LIFETIME	LIFETIME
ANY ANXIETY DISORDER	19.2%	30.5%

NATIONAL COMORBIDITY STUDY
Kessler et al Arch Gen Psychiatry Jan 1994

ANXIETY DISORDERS CAUSE IMPAIRMENT

Daily life effects

- Physical functioning
- Social functioning
- Pain
- Fatigue
- General health
- Sense of well being

Increased risk of

- Income < $70,000 per year
- Fewer than 16 years of education

INCREASED RISK OF SUICIDE

- Overall **Anxiety Disorders** associated with **3** fold risk for suicide attempts
  - **PTSD:** **6** fold risk
  - **Panic Disorder** and **GAD:** **5.6** fold risk
  - **Social Phobia:** **2.1** fold risk

Kessler et al. *Arch Gen Psychiatry*. 1999;56:617.

COMORBIDITY

Anxiety Disorders co-occur with many mental and physical disorders, esp.

- Major Depression
- Bipolar Disorder
- Other Anxiety Disorders
- Substance Use Disorders

COMORBIDITY (CONT.)

Other disorders more severe, harder to treat, more likely to recur

Psychiatric Examples:

- Panic Disorder with Major Depression
- Panic Disorder with Bipolar Disorders
- OCD with Schizophrenia

Medical Examples

- Panic Disorder with Asthma
- OCD with dermatologic problems

DIAGNOSING ANXIETY DISORDERS

DSM IV

PANIC DISORDER
AGORAPHOBIA
GENERALIZED ANXIETY DISORDER
OBSESSIVE COMPULSIVE DISORDER
SOCIAL PHOBIA
POSTTRAUMATIC STRESS DISORDER
ACUTE STRESS DISORDER
SPECIFIC PHOBIA

PANIC ATTACK

- Sudden escalation and rapid crescendo peak of 4 or more symptoms (physical symptoms prominent
- Panic can be
  - Spontaneous
  - situation predisposed
  - situation bound
- Can occur with any anxiety disorder and many other physical and mental disorders

PANIC ATTACK SYMPTOMS

- Racing heart
- Sweating
- Trembling or shaking
- Feeling like its hard to breathe
- Feeling of Choking
- Chest Pain
- Nausea
- Feeling Dizzy
- Tingling in hands or feel
- Feeling chilled or hot
- A feeling of unreality
- Fear of losing control or dying

AGORAPHOBIA

Fear or avoidance of places where

- Escape might be difficult or embarrassing

and/or

- Help might not be available

in the event of having a panic attack or panic-like symptoms (feeling suddenly sick)

TYPICAL AGORAPHOBIC SITUATIONS

- Driving
- Travel in Bus, Train or Plane
- Bridge or Tunnel
- Being far From Home
- Crowds
- Standing in Line
- Church, movie theatre, auditorium
- Supermarket
- Shopping Mall
- Restaurant
- Sports event
- Home Alone

PANIC DISORDER

- Recurrent spontaneous panic attacks
- Persistent worry or behavior change, related to
  - Experiencing panic
  - Consequences or implications of panic
- Occurs with and without agoraphobia

PANIC DISORDER: ASSOCIATED SYMPTOMS

- General worries and anxieties,
  - related to health
  - separation from loved ones
- Low tolerance of medication
- Demoralization

PANIC DISORDER: BIOLOGICAL ABNORMALITIES

- Low pCO_2 with normal pH
- Tachycardia and episodic hypertension

- Panic occurs in response to pharmacological provocation, e.g.
  - Sodium lactate infusion
  - Carbon Dioxide inhalation

PANIC DISORDER: FAMILIAL PATTERN

- 4-7 fold risk among first degree relatives
- Identical twin has a significantly greater risk of Panic Disorder than fraternal twin
- 50-75% of patients with Panic Disorder do not have a relative with Panic Disorder

GENERALIZED ANXIETY DISORDER (GAD)

Excessive uncontrollable worry concerning everyday activities or events, associated with

- Feeling restless, keyed up, or on edge
- Easy fatigue
- Difficulty concentrating
- Irritability
- Muscle tension
- Sleep disturbance

OBSESSIVE COMPULSIVE DISORDER: OBSESSIONS

- Intrusive, unwanted thoughts, images or impulses
- Not simply excessive everyday worries
- Recognized as irrational - attempts to suppress or neutralize

TYPICAL OBSESSIONS

- Contamination
- Doubts
- Orderliness
- Aggressive, Horrific Impulses
- Sexual Images
- Disasters

OBSESSIVE COMPULSIVE DISORDER: COMPULSIONS

- Ritualistic, repeated behaviors or mental "acts"
- Usually performed to ward off an obsession or to prevent a dreaded event

TYPICAL COMPULSIONS

- Cleaning
- Checking
- Counting
- Repeating
- Seeking reassurance
- Ordering

OBSESSIVE COMPULSIVE DISORDER: ASSOCIATED SYMPTOMS

- Avoidance of situations that trigger an obsession or compulsion
- Hypochondriasis
- Guilt, over-responsibility
- Sleep disturbance
- Skin conditions from excessive washing or picking

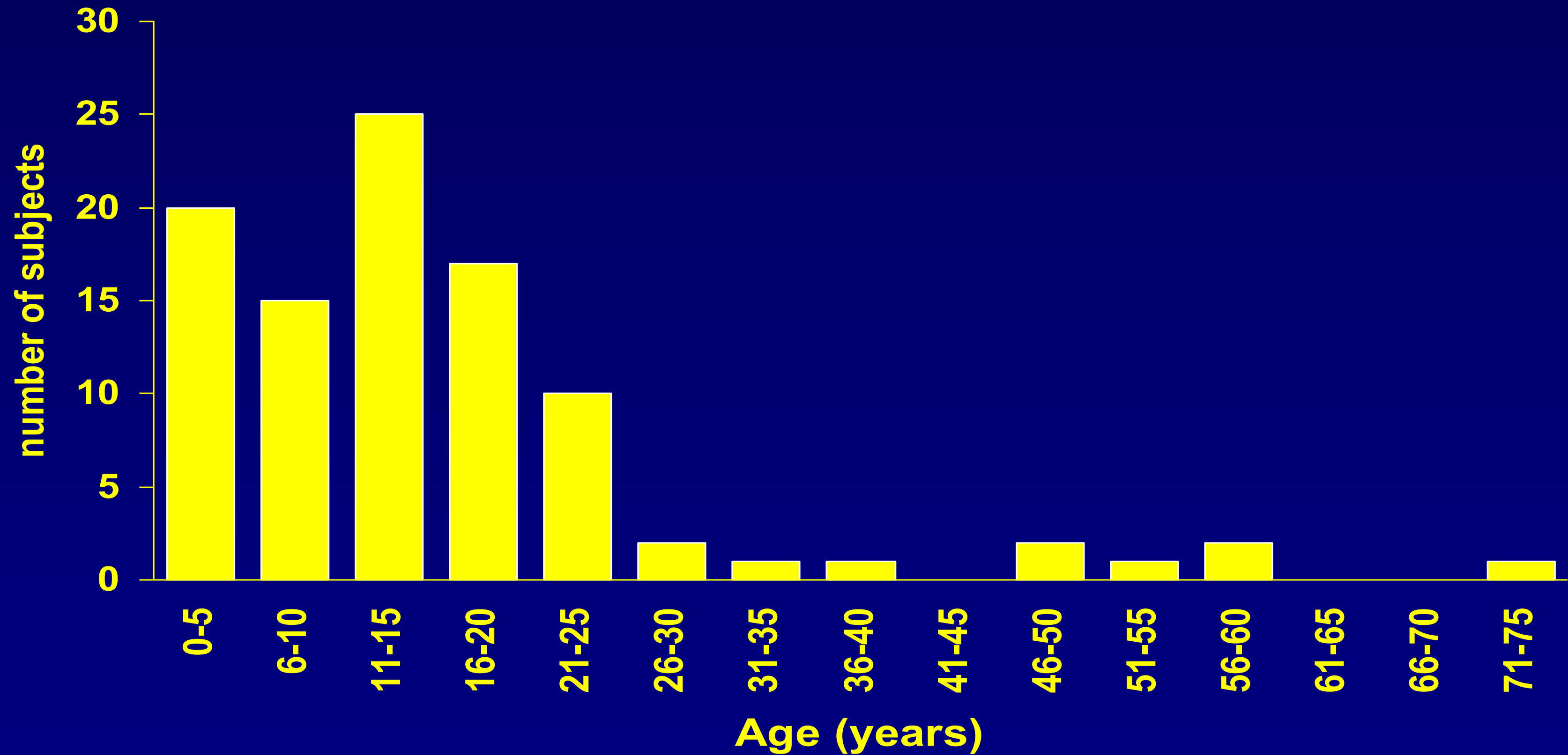
SOCIAL PHOBIA
(SOCIAL ANXIETY DISORDER)

- Fear of scrutiny and negative evaluation by others in social or performance situations
- Social situations are avoided or endured with dread
- The person recognizes fear is excessive

SOCIAL PHOBIA: ASSOCIATED SYMPTOMS

- Hypersensitivity to negative feedback, criticism, or rejection
- Difficulty being assertive
- Low self esteem, feelings of inferiority
- Under-developed social skills
- Under-achievement in school or jobs

AGE AT ONSET OF SOCIAL PHOBIA



Schneier et al, 1992

CONSEQUENCES OF SOCIAL PHOBIA

- Lower education (mean less than 11 years)
- Lower income, unemployment
- Never marry

Magee et al, 1996

SOCIAL PHOBIA: BARRIERS TO TREATMENT

- Lack of information about treatment
- Misunderstanding the seriousness
- Stigma
- Avoidance of strangers

POSTTRAUMATIC STRESS DISORDER

- Exposure to traumatic event
  - Associated with serious physical injury or death
  - Experienced with intense fear, helplessness or horror
- Re-experiencing
- Avoidance
- Hyperarousal

PTSD: RE-EXPERIENCING

- Recurrent, unwanted recollections
- Recurrent distressing dreams
- Acting or feeling as if the event were recurring
- Distress when confronted with reminders
- Physical symptoms when confronted with reminders

PTSD: AVOIDANCE

- Avoiding feelings, thoughts or conversations
- Avoiding activities, places or people
- Inability to recall parts of the experience
- Loss of interest or motivation to participate in significant activities
- Detached or estranged from others
- Blunted feelings
- Lost vision of the future, sense of foreshortened life

PTSD: AROUSAL

- Sleep disturbance
- Irritable, anger outbursts
- Difficulty concentrating
- Hypervigilant
- Easy startle

PTSD: ASSOCIATED SYMPTOMS

- Guilt
- Difficulty regulating emotions
- Self-destructive behavior
- Feeling unreal, losing a sense of time, or forgetting important things
- Physical symptoms
- Shame, despair, feeling ineffectual
- Feeling permanently damaged
- Social withdrawal, relationship problems
- Personality change

ANXIETY DISORDERS ARE ASSOCIATED WITH BIOLOGICAL CHANGES

- Brain Imaging Abnormalities
- Autonomic Activation
- Neuroendocrine Changes
- Early Bio-behavioral Changes

Brain Fear Circuitry

Amorapanth P, et. al. Nature Neuroscience 2000; 3:74-79
LeDoux JE: The Emotional Brain. New York, Simon and Schuster, 1996

Behavioral and neurobiological responses to fear-arousing stimuli

- Freezing (periqueductal gray)
- Autonomic activation (lateral hypothalamus)
- Neuroendocrine response (paraventricular hypothalamus)

Associative learning couples these responses to otherwise meaningless stimuli

Amygdala

Lateral Nucleus

- Creates link between conditioned and unconditioned stimulus
- Exposure to subsequent relevant stimulus, activates

Central Nucleus: (coordinates fear response)

- periaqueductal gray region - freezing or immobility
- lateral hypothalamus - autonomic responses
- paraventricular hypothalamus – neuroendocrine

Passive and Active Responding

Automatic (Involuntary,Passive) Response

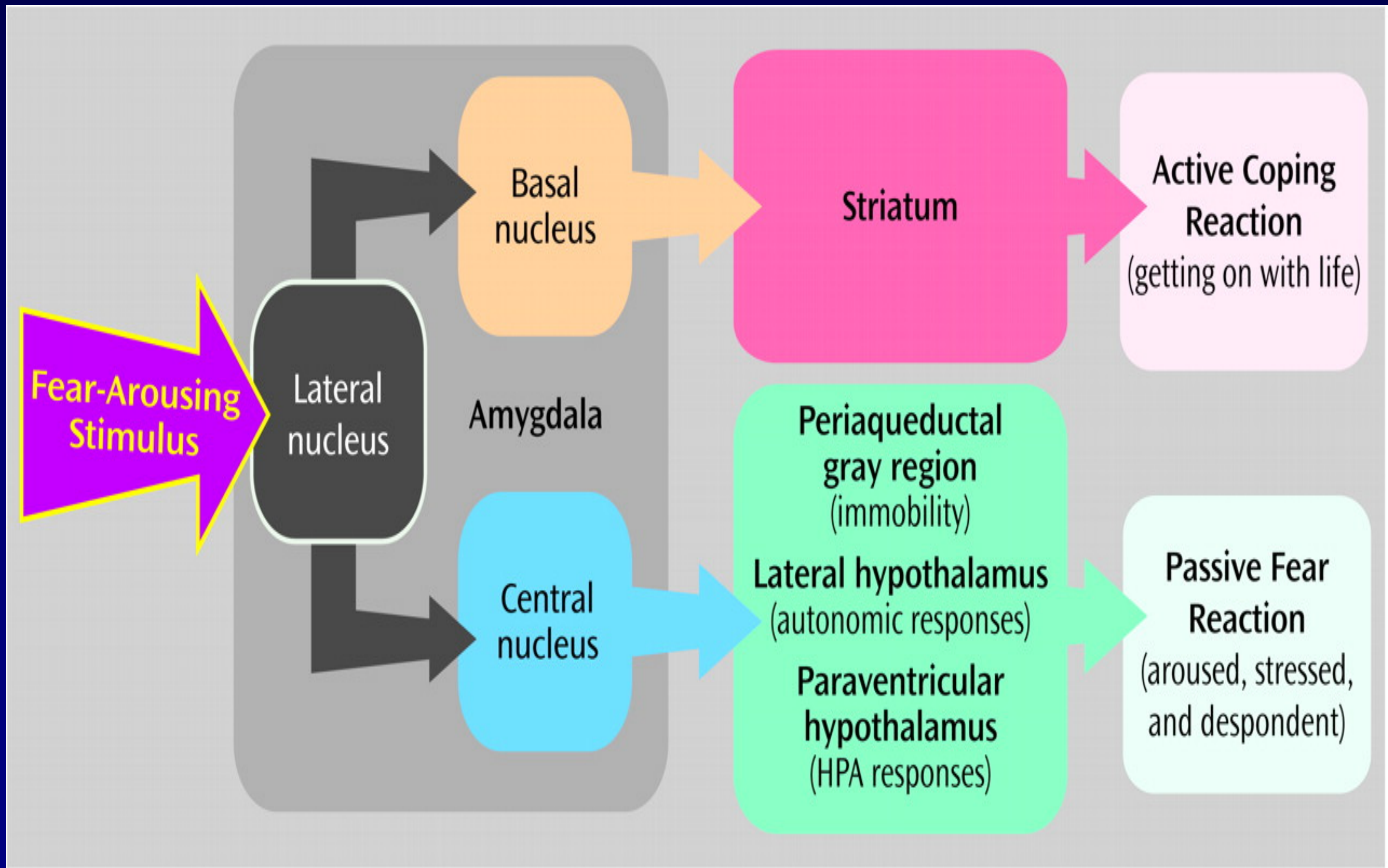
Lateral nucleus → Central nucleus

Deliberate (Voluntary, Active) Response

Lateral nucleus → Basal nucleus

Shift From Passive Fear to Active Coping in the Brain

LeDoux J and Gorman J Am J Psychiatry 158:1953-1955, December 2001



BEHAVIORAL INHIBITION: BIOBEHAVIORAL DIATHESIS FOR ANXIETY DISORDERS

- 10% prevalence
- Increased risk of anxiety disorders
- Found among offspring of parents with
  - panic disorder
  - agoraphobia
  - social phobia
  - depression
- Parents have higher frequency of anxiety disorders

MANIFESTATIONS OF BEHAVIORAL INHIBITION

Infants: High motor activity, fretting response to novelty; high cardiovascular sympathetic tone

Toddler: Retreat from unfamiliar, shy, fearful, autonomic arousal

Children: Peripheral in peer play, multiple anxiety disorders

TREATMENT OF ANXIETY DISORDERS

- Promote active coping
- MEDICATION: Provide information, directly moderate neurobiology
- COGNITIVE BEHAVIORAL TREATMENT: Provide information, Change neural circuitry through exposure, Teach specific coping techniques

PATIENTS AND FAMILY NEED INFORMATION

- About the illness: symptoms and course
  - Biological aspects of anxiety
  - Psychological components of symptoms
    - Simple principles of conditioned responses
    - Role of thoughts and behaviors in affecting emotions
- Relationship between physiology, psychology and treatment

PHARMACOLOGIC TREATMENT OF ANXIETY DISORDERS: EARLY GENERATION

- Typical Antidepressants, for example,
  - imipramine,
  - clomipramine,
  - nortriptyline,
  - monoamine oxidase Inhibitors (like phenelzine)
- Benzodiazepines (alprazolam, clonazepam)
- Most worked for some, but not all of the anxiety disorders

PHARMACOLOGIC TREATMENT OF ANXIETY DISORDERS: NEWER MEDICATIONS

Selective Serotonin Reuptake Inhibitors

- citalopram
- fluoxetine
- fluvoxamine
- paroxetine
- sertraline
- Venlafaxine

Act as “broad spectrum” antianxiety agents

COGNITIVE BEHAVIORAL TREATMENTS ARE EQUALLY EFFICACIOUS AS MEDICATION FOR ANXIETY DISORDERS

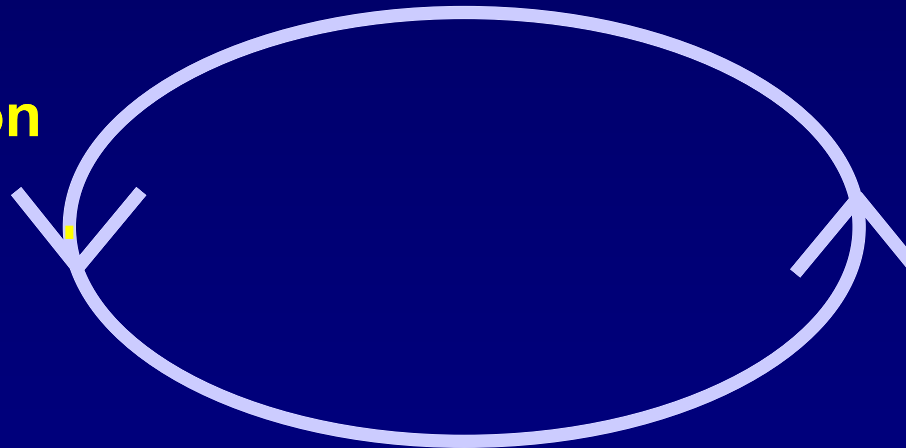
- Preferred by many patients
- Associated with improvement in biological as well as psychological abnormalities

CBT MODEL OF PANIC DISORDER

Bodily Sensation

Catastrophic misinterpretation

Conditioned response



Physiological arousal

Fear

CBT FOR PANIC

- Focuses on fear of bodily sensations
- Provides information about model of illness & treatment
- Uses well-specified procedures to reduce fear response

CBT Procedures Target Fear of Bodily Sensations

- Decrease physiological arousal
  - Breathing retraining
- Correct catastrophic misinterpretation
  - Provide information about panic & anxiety
  - Identify & challenge cognitive errors
- Extinguish conditioned fear
  - Interoceptive exposure
  - *In vivo* exposure for agoraphobia
- Treatment administered in 4-11 sessions

CBT RESULTS

- Equivalent to medication in reducing panic attacks and anticipatory anxiety
- Strongly preferred by patients
- Better long term follow-up

Barlow, Gorman, Shear and Woods JAMA 2000

CBT CHANGES BIOLOGICAL REACTIVITY IN PANIC DISORDER PATIENTS

BEFORE TREATMENT

Response to Sodium Lactate

- 60% experience panic attack

Response to Inhalation of CO2

- 60% experience panic attack

Shear et al. *Am J Psyc* 148:795-797, 1991

AFTER TREATMENT

Response to Sodium Lactate

- 33% experience panic attack

Response to Inhalation of CO2

- 20% experience panic attack

Arlow et al. *J Psychother Prac and Res* 6: 145-150, 1997

BEHAVIORAL STRATEGIES CAN BE USED WITH MEDICATION

- Provide information about the disorder and rationale for treatment
  - Usual response, side effects
  - Discuss beliefs about taking the medication
  - Follow progress closely
- Meet at least once with a family member to review diagnosis and plans
- Provide instructions for simple behavioral and cognitive strategies

Behavioral Anxiety Management

- Decrease Physiological Arousal
  - Slow Abdominal Breathing
  - Progressive Muscle Relaxation
- Re-Instate Normal Activities
- Exposure to Anxiety Provoking Situations

Cognitive Therapy

- Target Negative Thinking and Logical Errors
  - Overestimation of Probability of Negative Consequences
  - Catastrophizing
- Techniques
  - Identify and Challenge Negative Thoughts
  - Provide Alternative Explanations

WHAT TO REMEMBER ABOUT ANXIETY DISORDERS

- Common and debilitating conditions
- Often co-occur with other medical and psychiatric conditions
- Characterized by
  - prominent somatic symptoms
  - catastrophic misinterpretations
  - escape and avoidance behaviors

WHAT TO REMEMBER ABOUT ANXIETY DISORDERS

- Avoidance
  - Can prevent help-seeking
  - Inhibits reporting of symptoms
- Highly treatable
  - Medication, especially serotonin active antidepressants
  - Cognitive behavioral treatment