“Pathophysiology” of Anxiety Disorders

- Anxiety is a normal and natural reaction to environmental stimuli (“fight or flight” response, or in women “tend and be-friend”)
- Problematic anxiety can develop because normal human problem solving skills do not work for certain psychological phenomena
- Role of Avoidance – avoiding psychological phenomena usually makes them stronger
- Many anxiety disorders arise as individuals attempt to suppress or avoid the unavoidable (ie, common mental processes)

The Three S’s of the Psychiatric Interview

1) S – Stressors/triggers
2) S – Suicidality
3) S – Substance Abuse

Using the GAD-7

Gender Differences in anxiety

<table>
<thead>
<tr>
<th>Women compared with men:</th>
<th>Men:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are approx. twice as likely to develop anxiety disorders</td>
<td>Report a lower sense of personal control over their lives and less self-efficacy</td>
</tr>
<tr>
<td>Have higher rates of agoraphobia</td>
<td>Have greater tendency to ruminate</td>
</tr>
<tr>
<td>Show lower HPA and autonomic reactivity</td>
<td>Have heightened sensitivity to social cues</td>
</tr>
<tr>
<td>Have greater anxiety/disgust sensitivity</td>
<td>Demonstrate behavioral avoidance</td>
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</tbody>
</table>


DSM IV Anxiety disorders
# Anxiety Disorders in Women
UCSF CME Conference, Hawaii 2012
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## Panic Disorder
- Occurs in social phobia, specific phobia, PTSD and OCD
- May herald depression
- May be secondary to: underlying medical condition, medication side effect, illicit drug use

### Panic Attacks: not specific to Panic Disorder
- Panic attacks can occur in a number of Anxiety Disorders in addition to Panic Disorder
- The diagnosis of Panic Disorder requires the presence of recurrent uncued panic attacks.
- The uncued panic attacks of Panic Disorder can progress to Specific Phobia or Social Phobia (and vice versa).

## Key Diagnostic Points

<table>
<thead>
<tr>
<th>Panic Disorder</th>
<th>Social Phobia (Social Anxiety Syndrome)</th>
</tr>
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<tbody>
<tr>
<td>Occurs in social phobia, specific phobia, PTSD and OCD</td>
<td>Common, but often difficult to treat</td>
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<td>May be secondary to: underlying medical condition, medication side effect, illicit drug use</td>
<td>often overlaps with Avoidant Personality Disorder</td>
</tr>
<tr>
<td>Panic Attacks: not specific to Panic Disorder</td>
<td>Morbidity may be quite high</td>
</tr>
</tbody>
</table>

## Social Phobia (Social Anxiety Syndrome)
Common, but often difficult to treat
often overlaps with Avoidant Personality Disorder
Morbidity may be quite high

## Specific Phobia
Usually best treated with desensitization, but medication augmentation occasionally indicated

## Obsessive Compulsive Disorder (OCD)
Patient usually has obsessions and compulsions:

<table>
<thead>
<tr>
<th>Obsessions:</th>
<th>Compulsions:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Recurrent and persistent thoughts, impulses, or images</td>
<td>• Repetitive behaviors or mental acts</td>
</tr>
<tr>
<td>• Viewed by patient as intrusive and inappropriate and cause marked anxiety or distress.</td>
<td>• Performed in response to an obsession, or according to rules that must be applied rigidly.</td>
</tr>
<tr>
<td>• Recognized as a product of his or her own mind.</td>
<td>• Generally not connected in a realistic way with what they are designed to neutralize or prevent or are clearly excessive.</td>
</tr>
<tr>
<td>• Obsessive-compulsive disorder</td>
<td>• Obsessive-compulsive disorder</td>
</tr>
</tbody>
</table>

## Treatment of OCD
SSRI’s: usually high dose, take longer for effect
Clomipramine (Anafranil)
Behavior Therapy: Exposure-Response Prevention (see figure below)
Psychosurgery for treatment-refractory cases
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### Post-Traumatic Stress Disorder (PTSD)
Requires history of trauma
Three clusters of symptoms
- Re-experiencing (flashbacks, nm’s)
- Avoidance and numbing
- Arousal (insomnia, hypervigilance)
Duration of more than one month, (compared with Acute Stress Reaction, <1m)
Primary treatment is psychotherapy
Medication options (except for paroxetine and sertraline, these are off-label)

<table>
<thead>
<tr>
<th>SSRIs</th>
<th>Propanolol 10mg tid/qid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other AD</td>
<td>Prazosin 1mg qhs and taper up, helps with sleep</td>
</tr>
<tr>
<td>Atypicals</td>
<td>Clonidine 0.1mg-0.2mg qhs, for NM’s, warn about orthostasis</td>
</tr>
<tr>
<td>Mood Stabilizers</td>
<td>Topiramate 25-100mg qhs</td>
</tr>
<tr>
<td>Benzodiazepines</td>
<td>D-cycloserine: enhances exposure therapy</td>
</tr>
</tbody>
</table>

### Generalized Anxiety Disorder
Excessive worries for at least six months about real life problems such as school and work performance.
Accompanied by 3 or more of the following:

<table>
<thead>
<tr>
<th>Restlessness or feeling on edge</th>
<th>Irritability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Easy fatigability</td>
<td>Muscle tension</td>
</tr>
<tr>
<td>Trouble concentrating</td>
<td>Sleep disturbance</td>
</tr>
</tbody>
</table>

### Health Anxiety and Hypochondriasis

<table>
<thead>
<tr>
<th>Fear or belief of potential of serious illness</th>
<th>Reassurance may reinforce fear, particularly if it reduce anxiety temporarily</th>
</tr>
</thead>
<tbody>
<tr>
<td>Misinterpretation of bodily sensations</td>
<td>“Sick role” may reinforce behaviors</td>
</tr>
<tr>
<td>Persists despite appropriate medical reassurance</td>
<td>Physical de-conditioning may increase somatic sensations</td>
</tr>
<tr>
<td>Lasts for at least six months</td>
<td>Social isolation (eg, staying home from work) may worsen somatic preoccupation</td>
</tr>
<tr>
<td>Variant of OCD?</td>
<td></td>
</tr>
</tbody>
</table>
Hypochondriasis: Treatment
Possible treatment modalities include: SSRI’s, Cognitive-behavioral therapy (CBT), Education about health beliefs -- address Pathological idea: “Every physical symptom must have an explanation.”


**General Treatment of Anxiety Disorders**
Cognitive-Behavioral Therapy (CBT)

| Education.  | Stress Management         |
| Physical control strategies. | Problem solving techniques |
| Cognitive control strategies. | Self monitoring             |
| Behavioral strategies.     | Applied relaxation          |
|                          | Meditation/Mindfulness      |

Self-Help Books for Anxiety Disorders
- Anxiety and Phobia Workbook, by E. Bourne
- Stop Obsessing, by E. Foa

**Websites**
Anxiety Disorders Association of America
http://www.adaa.org/
The Anxiety and Phobia Internet Resource (TAPIR)
http://www.algy.com/anxiety/
eCouch
http://ecouch.anu.edu.au/new_users/welcome01
This site is related to MoodGym

**Psychopharmacological**
- selective serotonin reuptake inhibitors are the mainstay of pharmacological treatments
- other antidepressants
- anxiolytics (benzodiazepines)

**Buspirone** – partial agonist of 5HT1a
- 5-20mg tid, takes 2-6 weeks
- no w/d sx, easy to use, may be preferred in elderly

**Benzodiazepines (BDZ)**
- All share same mechanism of action (potentiates at GABA receptor)
- Vary by speed of onset, metabolism and duration of action
- Shorter-acting usually means faster speed of onset: eg, alprazolam (Xanax)
triazolam (Halcion)
- Longer-acting: diazepam (Valium), clonazepam (Klonopin), lorazepam (Ativan)
- Main side effects include: sedation, ataxia, amnesia, potential for abuse
- Generally useful for short-term anti-anxiety, tolerance frequently develops within 1-2 weeks
- Should not be discontinued abruptly (esp. shorter acting bdz’s): see example Tapering Schedule below

Benzodiazepines associated with:
- Sleep disturbance
- Cognitive difficulty/delirium
- Impairment in activities of daily living
- Motor vehicle accidents
- Gait disturbance (with concomitant increased risk of hip fractures)

References

Getting patients off Benzo’s
Take home message:
- Short term usage (<6 weeks) unlikely to lead to significant problems with withdrawal.
- Patients who have been on BDZ’s for more than one year will need more careful tapering.


Example Tapering Schedule:
Week#1: 75% (total dosage per day)
Week#2: 50% (total dosage per day)
Week#3: 25% (total dosage per day)
Week#4: 12.5% (total dosage per day)
N.B. This may be too fast, write it out for patients