Anxiety Disorders

- Most common psychiatric problem that presents to primary care physicians often presenting as a medical complaint (GI, cardiac)
- These patients are 3-5 x’s more likely to go to the doctor; 60% of anxiety disorder patients go to their primary care physician
- During primary care setting first interview 80% of anxiety diagnoses are missed

Fear vs. Anxiety

- Aspects of fear and anxiety overlap, but in general:
  - Fear-emotional response to real or perceived imminent threat; autonomic behavior surges for fight or flight, thoughts of immediate danger and/or escape
  - Anxiety-anticipation of future threat; Muscle tension and vigilance in preparation for future danger and cautious or avoidant behavior
- These are both parts of natural selection in all animals

Pathological Anxiety

- Anxiety is a universal normal reaction to identifiable stressors hard wired into us that society considers understandable. Anxiety becomes pathological when any of the following happens:
  1. Autonomy- anxiety without obvious reason
  2. Intensity- out of proportion response, causes dysfunction and/or is not bearable
  3. Duration- lasts longer than expected
  4. Behavior- coping mechanisms are not enough and/or patient displays other dysfunctional (usually avoidance) behaviors

Manifestations or Domains of Anxiety

<table>
<thead>
<tr>
<th>Physical symptoms:</th>
<th>Constitutional-diaphoresis, fatigue</th>
<th>Pulmonary-SOB, choking sensation, ↑RR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin-flushing, pallor</td>
<td>GI-N/V, diarrhea, constipation, anorexia, abdominal pain</td>
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<tr>
<td>HEENT-Dry mouth; visual changes</td>
<td>GU-↑urinary frequency, sexual dysfunction</td>
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<tr>
<td>Cardiac-Palpitations, ↑HR, chest pain, HTN</td>
<td>Musculoskeletal-muscle tension</td>
<td></td>
</tr>
<tr>
<td>Neurologic-Lightheadedness, vertigo, hyperreflexia, mydriasis, tremors, paresthesias</td>
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</tbody>
</table>

- Affective: ranges from edginess to terror & panic; often viewed as irritability or restlessness
- Cognitive: Worry, apprehension, poor concentration, feeling your mind has gone blank, feeling tense/jumpy, anticipating the worst,
- Behavioral: Changes made in an effort to diminish or avoid the distress.
Common underlying neurophysiology
Biological & neuroanatomical structures involved
- Autonomic symptoms, mostly sympathetic-locus ceruleus
- Limbic system: amygdala, hippocampus, hypothalamus
Anxiety circuits
- Amygdala centered circuit: fear, panic, phobia
- Cortico-striatal-thalamic-cortical circuit: worry, anxious misery, apprehension, expectation, obsessions
Neurotransmitters & anxiety
- Serotonin (5-HT)-produced predominantly by raphe nuclei and modulates many homeostatic responses (mood, sleep, anxiety, appetite, sex drive)
- Low 5-HT has been linked with aggression, impulsivity, depression, suicide attempts, self-injury, intrusive thoughts and repetitive behavior
- Norepinephrine (NE)-made in Locus Ceruleus; associated with orienting, selective attention, hypervigilance, mood, and autonomic arousal
- GABA-brain’s primary inhibitory neurotransmitter; Medications that ↑GABAergic tone, such as benzodiazepines, alleviate anxiety
- Glutamate-excitatory neurotransmitter made in presynaptic neuron terminals; most abundant messenger in brain; involved in learning & memory

Epidemiology – just note most common vs least common

<table>
<thead>
<tr>
<th>Disorder</th>
<th>One-Year Prevalence</th>
<th>Lifetime Prevalence</th>
<th>Female : Male Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any Anxiety Disorder</td>
<td>12.7 18.7 11.1</td>
<td>19.2 24.9 19.5</td>
<td>F (30%) &gt; M (19%)</td>
</tr>
<tr>
<td>Simple Phobia</td>
<td>8.1 8.8 7.1</td>
<td>14.3 11.3 9.4</td>
<td>F &gt; M</td>
</tr>
<tr>
<td>Social Phobia</td>
<td>1.7 7.9 2.8</td>
<td>3.7 13.3 5.0</td>
<td>F &gt; M</td>
</tr>
<tr>
<td>Generalized Anxiety Disorder</td>
<td>3.1 3.8 2.1</td>
<td>5.0 5.1 4.1</td>
<td>2:1 (F:M)</td>
</tr>
<tr>
<td>Panic Disorder</td>
<td>0.9 2.3 2.1</td>
<td>1.6 3.5 5.1</td>
<td>&gt; 2:1 (F:M)</td>
</tr>
<tr>
<td>Post Traumatic Stress Disorder</td>
<td>1.0-1.3*</td>
<td>2.6 --- ---</td>
<td>2:1 (F:M)</td>
</tr>
<tr>
<td>Obsessive Compulsive Disorder</td>
<td>1.7 ---- ---</td>
<td>2.6 --- ---</td>
<td>F (slightly) &gt; M</td>
</tr>
</tbody>
</table>

These are estimates based on three major U.S. epidemiological studies:
- The Epidemiological Catchment Area (ECA) study in late 1980’s (1st number)
- National Co-morbidity Study (NCS) in 1990’s (2nd number)
- National Epidemiologic Survey of Alcohol and Related Conditions 2001-02 (3rd number)
  *PTSD lifetime data estimated from ECA & NCS databases

You can be diagnosed with more than one type of anxiety disorder – one dose not eliminate another except for some with time considerations or if its clearly due to a medical or substance induced condition.
1. Panic Attacks

Panic attack is an abrupt surge of intense fear that reaches a peak within (~10) minutes and during which **four or more** of the following symptoms occur:

<table>
<thead>
<tr>
<th>1. Palpitations, pounding heart, or accelerated heart rate</th>
<th>2. Shortness of breath (tachypnea) or smothering</th>
</tr>
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<tbody>
<tr>
<td>3. Chest pain or discomfort</td>
<td>4. Fear of dying</td>
</tr>
<tr>
<td>5. Trembling or shaking</td>
<td>6. Fear of losing control or going crazy</td>
</tr>
<tr>
<td>7. Sweating (diaphoresis)</td>
<td>8. Parasthesias (numbness or tingling sensations)</td>
</tr>
<tr>
<td>11. Dizziness, lightheadedness, unsteady or faint</td>
<td>12. Chills or hot flushes (blushing)</td>
</tr>
<tr>
<td>13. Derealization (feeling of unreality) or depersonalization (feeling detached from oneself)</td>
<td></td>
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</tbody>
</table>

Life time prevalence of having a panic attack may be as high as 30-40% and is not considered a psychiatric disorder unless it develops into panic disorder.

2. Panic Disorder

Recurrent, unexpected panic attacks. No identifiable trigger. At least one attack is followed for 1 month by:

- Anticipatory anxiety of another attack and its consequences “going crazy” or having a heart attack, etc.
- Avoidance of situations that may provoke an attack

Attacks are not better accounted for by another mental disorder or general medical condition

Differential Diagnosis

Panic attacks can occur in any anxiety disorder, not just Panic Disorder. Panic attacks may be seen in:

- PTSD, OCD, Generalized Anxiety Disorders(GAD); phobias
- The effects of a Substance (Intoxication or withdrawal)
- A general medical condition (Ex. Angina, asthma)

Comorbidity

- Most common anxiety disorder co-morbidity: agoraphobia, 2nd most common: GAD
- Most common non-anxiety disorder co-morbidity: Major depression
- Other co-morbidities:
  - Substance abuse: alcohol > other substances
  - Personality traits/disorders-especially Cluster C (Avoidant, Dependent, ObsessiveCompulsive)

Course

- Age of Onset
  - Median age of onset 20-24 years old;
    - Rare to start in childhood & starting after age 45 y/o is unusual
      - In older adults low prevalence is due to age related “dampening” of the autonomic nervous system response. Disorder often appears to recede later in life
  - Frequency & severity of panic attacks very widely
Frequency: may be consistent for a time (1/week), have bursts (daily attacks), separated by months with no attacks
Severity: may have full symptom attacks (4 or more symptoms) or limited symptom attacks (<4 symptoms); the number and type of panic attack symptoms frequently differ from one attack to the next
• Without treatment, usually has a waxing & waning course of illness
  < 20% have ongoing major impairment; ~50% have mild impairment, ~33% recover,

Other panic disorder notes
• Moderate genetic component
• Panic attacks & panic disorder diagnosis in the prior 12 months are risk factors for suicide
• Highest number of medical visits among the anxiety disorders
  o Each year in the U.S. approximately there are ~200,000 normal coronary angiograms. 33% of these patients have panic disorder.
  o When symptoms are less typical of coronary artery disease & patients are referred for non-invasive testing, > 50% of patients with negative tests have panic disorder.
  o Patients investigated for vestibular disorders due to complaint of dizziness, 33% have panic disorder

Etiology
• Neurocircuitry model theory: abnormally sensitive fear network, centered in amygdala
• GABA, serotonin, norepinephrine, implicated
• Oversensitive Locus Ceruleus

Treatment
• Cognitive Behavioral therapy (although many therapies are helpful including exploratory)
• Meds: 1st line-SSRI’s, SNRI’s, Benzodiazepines 2nd/3rd line: TCA’s, MAO-I’s
  Do not use Bupropion (Wellbutrin)

3. Agoraphobia
Marked fear/anxiety about at least 2 of the following situations:

<table>
<thead>
<tr>
<th>Using public transportation</th>
<th>Standing in line or being in a crowd</th>
</tr>
</thead>
<tbody>
<tr>
<td>Being in open spaces</td>
<td>Being outside of the home alone</td>
</tr>
<tr>
<td>Being in enclosed spaces</td>
<td></td>
</tr>
</tbody>
</table>

Significant distress or impairment in social or occupational functioning
   Patient fears or avoidances these situations because of thoughts that escape might be difficult or help may not be available in the event of a panic attack or panic like symptom or other embarrassing symptoms. Panic disorder usually proceeds this.
Agoraphobia situations almost always provokes fear & anxiety and patients actively avoids these situations to the point they may become homebound!
Time: > 6 months of fear, anxiety and/or avoidance
Prevalence: ~1.5%; F > M (2:1)
**Course:** Onset peaks in late teen years and early adulthood; overall mean age 17, later (late 20’s) if not associated with panic attacks/panic disorder. Course tends to be persistent and chronic; complete remission is rare (10%) unless condition is treated.

**Co-morbidity:** Majority of patients with agoraphobia have other mental disorders:
- Most frequent-other anxiety disorders which usually precede onset of agoraphobia; about 33% of pts with agoraphobia have panic disorder then depressive disorders and substance use disorders both of which usually are secondary to the agoraphobia. Treatment: Most effective treatment for agoraphobia is systematic desensitization. May also use antidepressants: SSRI’s, SNRI’s, TCA’s; Benzodiazepines, ideally, used short term.

### 4. Generalized Anxiety Disorder
Excessive anxiety and worry about a number of events and activities occurring most days for at least 6 months. Despite having insight into the unrealistic and excessive nature of the worrying, the patient finds it difficult to control the worry and the thoughts interferes with attention to the task at hand. Some might describe this person as a “worrywart”. Intensity, duration or frequency of the anxiety and worry is out of proportion to the likelihood or the anticipated event. This worry is accompanied by three or more somatic symptoms:

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Restlessness, feeling keyed up, on edge</td>
<td>Difficulty concentrating or mind going blank</td>
</tr>
<tr>
<td>Insomnia/sleep disturbance</td>
<td>Muscle tension</td>
</tr>
<tr>
<td>Easily fatigued</td>
<td>Irritability</td>
</tr>
</tbody>
</table>

**Onset:** Median age in onset is 30 y/o (later than other anxiety disorders), but has a broad range

**Time:** > 6 months

**Prevalence:** 1% in teens, 3% in adults; F > M (2:1)

**Course:** Some waxing and waning, less than Panic Disorder; may worsen later in life, especially in women; rates of full remission are very low Co-morbidity:
- High (90%) co-morbidity with other psychiatric disorders.
- Most common: Major Depression and other anxiety disorders
- Comorbid Substance use disorders (alcohol) M > F

**Treatment**
- Antidepressants: 1st line: SSRI’s, SNRI’s
- 2nd/3rd line: TCA’s, MAO-I’s
- Benzodiazepines, Buspironne (works best in pts not exposed to benzodiazepines previously)
- Cognitive Behavioral Therapy

### 5. Specific Phobia
Clinically significant fear/anxiety provoked by exposure to a specific feared object or situation which almost always leads to avoidance behavior. Patient recognizes fear as excessive/unreasonable.

<table>
<thead>
<tr>
<th>Situational</th>
<th>flying, driving, airplanes, tunnels, elevators</th>
<th>F &gt; M</th>
<th>Often later onset,(mid 20’s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural environments</td>
<td>Storms, heights, water</td>
<td>F &gt; M</td>
<td>Generally childhood onset</td>
</tr>
<tr>
<td>Animals/insects</td>
<td>Animals/insects</td>
<td>F &gt; M</td>
<td>Generally childhood onset</td>
</tr>
</tbody>
</table>
Blood/injection/injury | Seeing blood or injury—or receiving an injection or medical procedure | F = M | Generally onset is in childhood/adolescence; highly familial; strong vasovagal response

Is common for a patient to have multiple specific phobias; about 75% have >1 phobia; Average patient has 3 phobic objects and/or situations;

**Time:** >6 months
**Onset:** sometimes develops following traumatic event or seeing other go through trauma; many individuals though do not recall the onset;
Specific phobias usually develop in early childhood; majority before age 10
Situation specific phobia tend to have later age of onset than other phobias

**12 month Prevalence:** Overall 7-9%; Children 5%; Teens 16% -Most Common Anxiety Disorder

**Course:** Specific phobias that develop in childhood and adolescence are likely to wax and wane during that time period; phobias that persist into adulthood and unlikely to remit for most

**Treatment:** Psychotherapy-systematic desensitization; medication generally not used

6. Social Anxiety Disorder (Social Phobia)
Clinically significant fear or anxiety about one or more social situations in which patient is exposed to the scrutiny of others. May include social interactions (having a conversation, meeting new people), being observed (eating in a public place) and performance (public speaking, oral exam)
Patient is concerned about behaving (showing their anxiety) in a manner that will be humiliating or embarrassing.

These social situations almost always provoke fear and anxiety; are avoided or endured with intense fear and anxiety. Blushing is considered a hallmark symptom of this disorder.

**Time:** > 6 months
**Onset:** mean age of onset 13 years; age of onset for 75% is between 8 – 15 years; onset in adulthood is relatively rare

**12 month Prevalence:** F > M;

**Course:** Without treatment ~30% have symptoms remit within 1 year;
Without treatment ~60% have symptoms for several years or longer

**Co-morbidity:**
Other anxiety disorders, depressive disorders, substance use disorders(eespecially alcohol and cannabis)
Usually onset of social phobia precedes the other co-morbid disorders

**Treatment:**
Antidepressants: SSRIs, SNRI’s
Cognitive Behavioral Therapy-specifically exposure therapy
For Performance Anxiety: Propranolol & other -blockers
7. Separation Anxiety Disorder
Essential feature is excessive fear or anxiety concerning separation from home or attachment figures. Anxiety exceeds what is expected for person’s developmental level. Meet three of the following: Persistent and excessive distress/worry

1. When anticipating or experiencing separation from home or attachment figures
2. When separated that attachment figure’s well being. (will need to know whereabouts and stay in touch)
3. About something happening to them that would result in separation (getting lost, kidnapping)
4. About going out due to separation fears—will show reluctance or refusal to go out
5. About being alone or without attachment figure even if at home (leads to clinging or shadowing behavior)
6. That leads to reluctance/refusal to go to sleep without being near attachment figure (may insist someone stay with them until they fall asleep; refuse to do a sleepover at friends; or goon errands)
7. With repeated nightmares involving theme of separation
8. With physical complaints (headaches, stomach aches, etc)

Adults with anxiety disorder are typically over concerned about their children or spouse and experience marked discomfort when separated

Time: > 4 weeks for children/teens; > 6 months for adults
12 month prevalence: children 4%; teens 1.6%; adults ~1%
   Is the most prevalent anxiety disorder in children < 12 years old

Course: Majority of children with separation anxiety-recover completely

8. Selective Mutism
• Consistent failure to speak in specific social situations in which there is an expectation for speaking (at school) despite speaking in other situations
• Disturbance interferes with educational or occupational achievement
• Duration is >1 month and not attributable to lack of knowledge or speech/language barriers or due to a communication disorder

Prevalence: rare; < 0.5%
   Most likely in young children (< 5 y/o); Seen equally in males and females

Course: Thought that most outgrow this, but longitudinal course is not known

General approach to diagnosing anxiety disorders
Step 1: Rule out substance induced causes:
1. Any anxiety symptoms (prominent anxiety and/or panic attacks) developed during or soon after substance intoxication or withdrawal.
2. The involved substance/medication is capable of producing the reported symptoms

   Intoxication:
   Alcohol, Amphetamines, Caffeine, Cannabis, Cocaine, Hallucinogens, Inhalants, PCP, K-2, Spice, Bath Salts
Withdrawal:
Alcohol, Cannabis, Cocaine, Sedative-Hypnotics, Antidepressants, Opioids

Medications:
Anesthetics, Analgesics, Antibiotics, Anticholinergics, Anticonvulsants,
Antipsychotics, Antidepressants, Antihypertensive, Antiparkinsonian agents,
Antihistamines, Bronchodilators, Corticosteroids, Chemotherapy agents, Insulin,
Lithium, Oral contraceptives, Sympathomimetics, Thyroid supplements

Toxins:
Carbon dioxide, Carbon monoxide, Volatile substances (gasoline, paint), Heavy metals,
Organophosphates, Insecticides, Never gases

Work-up: Urine drug screen, Blood alcohol level, prescription drug levels (when available)

Step 2: Rule out medical conditions
Neurological: MS, migraines, essential tremor, vestibular dysfunction, pain, temporal lobe epilepsy, Parkinson’s disease
Endocrine: DM/hypoglycemia, hypo/hyperthyroidism, hypo/hyperparathyroidism, pheochromocytoma, Cushing disease, Addison’s disease
Cardiovascular: MI, CAD, CHF, MVP, arrhythmias, angina, HTN, valvular disease
Respiratory: asthma, COPD, pneumonia, PE, hypoxemia, pneumothorax
GI: carcinoid syndrome, hepatic encephalopathy, Irritable Bowel Disease
Metabolic: electrolyte abnormality (↑/↓Na), porphyria, anemia,
Allergy/autoimmune: Lupus, Anaphylaxis

Work up screen: Blood glucose), Urine Analysis, CBC, CMP, Ammonia, TSH, B12/Folate, RPR, ECG

General Pharmacological Treatment of Anxiety Disorders:
Anti-depressants-1st choice Selective Serotonin Reuptake Inhibitors (SSRI’s), many other antidepressants may be used
Benzodiazepines-other sedating meds or meds that produce drowsiness (hypnotics) may be used

General strategy:
Benzodiazepines-to control the acute anxiety (benzodiazepines exert their effect within the same day the medication is taken).
Simultaneously, the patient also begins an anti-depressant medication. However, takes a number of weeks for the anti-depressant to exert their desired clinical effect to treat the anxiety. When the anti-depressant does take effect, the benzodiazepine medication dose can then be lowered and perhaps discontinued. Many patients may need chronic benzodiazepine use despite otherwise good treatment.
II. Trauma & Stressor Related Disorders

1. Adjustment Disorder
   - In response to an identifiable stressor that occurred within the past 3 months, patient develops emotional or behavioral symptoms (anxiety, depressed mood, behavior disturbance)
   - Symptoms are out of proportion to severity of stressor
   - Significant impairment in social, occupational, or other area of functioning
   - Once stressor has ended, symptoms do not persist for more than 6 months
   May be in response to a single event (end of a romantic relationship), multiple stressors (job problems, marital difficulties), may be recurrent (seasonal business crises), may be continuous (a painful illness, living in a crime-ridden neighborhood)
   
   **Course:** by definition, disturbance begins within 3 months of the onset of the stressor and ends within 6 months after the stressor or its consequences have ceased

2. Acute Stress Disorder
   Exposure to actual or threatened death, serious injury, or sexual violation by experiencing the event, witnessing the event in person, learning the event(s) occurred to a close family member or close friend, or experienced repeated/extreme exposure to aversive details of traumatic events
   Presence of 9 or more of the following from any of the 5 categories:
   1. Intrusion Symptoms: distressing memories of event, recurrent nightmares, flashbacks, distress triggered by cues of the trauma
   2. Negative mood: inability to experience positive emotions
   3. Dissociative Symptoms: altered sense of one’s surroundings (derealization) or oneself (depersonalization); inability to remember important aspects of the trauma
   4. Avoidance Symptoms: efforts to avoid memories, thoughts, feelings about trauma; efforts to avoid external reminders of the trauma
   5. Arousal Symptoms: sleep disturbance, irritability/anger, hypervigilance, concentration, exaggerated startle response

   **Time:** 3 days to 1 month after trauma exposure -if it persists it becomes PTSD

3. Post Traumatic Stress Disorder (PTSD)
   Exposure to actual or threatened death, serious injury, or sexual violation by experiencing the event, witnessing the event in person, learning the event(s) occurred to a close family member or close friend, or experienced repeated/extreme exposure to aversive details of traumatic events
   Presence from the 4 categories:
   1. Intrusion Symptoms (1 or more): Distressing memories of event, recurrent nightmares, flashbacks, distress triggered by cues of the trauma
   2. Negative alterations in cognition to & mood (2 or more): Distorted cognition about cause of trauma; inability to remember important aspects of the trauma, Persistent negative emotional state, Negative view of oneself, inability to experience positive emotions
   3. Avoidance Symptoms (1 or more): Efforts to avoid memories,
thoughts, feelings about trauma; efforts to avoid external reminders of the trauma

4. Arousal Symptoms (2 or more): Sleep disturbance, irritability/anger, hypervigilance, concentration, exaggerated startle response

May have Dissociative Symptoms—but not a diagnostic requirement:
altered sense of one’s surroundings (derealization) or oneself (depersonalization);

Time: > 1 month
Course: duration of symptoms varies, but about 50% recover within 3 months; but may last for years/decades;

About half who start out with Acute Stress Disorder develops into PTSD
Symptoms recurrence & intensification may occur in response to reminders of original trauma, life stressors, new traumas

Predictors
Rates of PTSD are higher among veterans (estimated at 33% of veterans in recent Middle East conflicts) and those whose vocation (police, firefighters) increase risk of traumatic exposure especially first responders
Highest rates (33% to >50%): survivors of rape, military combat and captivity
More prevalent among females across the lifespan than males

Co-morbidity:
Significant co-morbidity of mood disorder, anxiety disorder, or substance use disorders

Treatment:
Trauma focused exposure therapies
SSRI’s, SNRI’s, TCA, MAO-I’s
Adjunctive treatment( all antidotal): olanzapine (Zyprexa), Risperdal (Risperidone), Mirtazapine (Remeron); Prazosin (Minipress)- for nightmares
Note: studies do NOT support use of benzodiazepines in treatment of PTSD

4. Obsessive Compulsive Disorder (OCD)
Recurrent obsessions and/or compulsions that are severe enough to be time consuming (>1 hour/day). Person understands that the obsessions or compulsions are unreasonable or excessive but they "just have to do it".

Obsessions: persistent ideas, thoughts, impulses or images that are experienced as intrusive and inappropriate and cause marked anxiety or distress. Person experiences the obsessions as "ego-dystonic" (not enjoyable)
Dirt/Contamination: most common
Doubts: 2nd most common
Symmetry/Disordered
Danger: Aggression (thoughts on hurting others)
Religious (thinking one is going to hell, has committed an unpardonable sin)
Dirty Thoughts (Sexual)
**Compulsions:** person feels driven to do something (the compulsion) to neutralize the anxiety and the distress caused by the obsessions.
- Cleaning/Washing
- Checking/Rechecking/Repeating
- Counting/Arranging/Ordering
- Console self
- Confession/Rituals

Most individuals with OCD have both obsessions and compulsions.

**Prevalence:** 1-1.5% (slightly higher in F than M)
- Mean age of onset is 19 years old; 25% cases start before age 14; onset after age 35 is unusual
- Males have earlier age of onset than females

**Course:**
- Chronic with waxing and waning over life
- Without treatment, remission in adults is low

**Co-morbidity:**
- 75% have an anxiety disorder in their lifetime; OCD onset usually after anxiety disorder
- 60% have a mood disorder (MDD most common); OCD onset usually precedes mood disorder
- Up to 30% have a lifetime tic disorder (most common in males with childhood onset of OCD)

PANDAS (Pediatric Autoimmune Neuropsychiatric Disorder Associated with Streptococcus infections) – in children watch for development of obsessions and compulsions along with other behavioral changes post strep infection. Often missed- usually short lived but can become chronic – often seen as very controversial in more chronic and relapsing cases.

OCD is more common in patients with various mental disorders than what would be expected based on its prevalence in the general population:
- Schizophrenia, schizoaffective disorder, bipolar disorder, eating disorders (anorexia and bulimia) and Tourette’s disorder

**Treatment:**

**Exposure therapy Variations of exposure therapy**
- **In vivo exposure:** Directly facing a feared object, situation, or activity in real life.
  - Ex. someone with a fear of snakes might be instructed to handle a snake.

- **Imaginal exposure:** Vividly imagining the feared object, situation, or activity. Ex, someone with PTSD might be asked to recall and describe his or her traumatic experience in order to reduce feelings of fear.

- **Virtual reality exposure:** In some cases, virtual reality technology can be used when in vivo exposure is not practical. Ex, someone with a fear of flying might take a virtual flight in the psychologist's office, using equipment that provides the sights, sounds, and smells of an airplane.
**Different Pacing of Exposure Therapy**

**Graded exposure:** Therapist & patient construct an exposure fear hierarchy, in which feared objects, activities, or situations are ranked according to difficulty. They begin with mildly or moderately difficult exposures, then progress to harder ones.

**Flooding:** Using the exposure fear hierarchy to begin exposure with the most difficult tasks. **Systematic Desensitization:** In some cases, exposure can be combined with relaxation exercises to make them feel more manageable and to associate the feared objects, activities, or situations with relaxation.

**Therapy is helpful through:**

**Habituation:** Over time, people find that their reactions to feared objects or situations decrease.

**Extinction:** Exposure can help weaken previously-learned associations between feared objects, activities, or situations and bad outcomes.

**Self-efficacy:** Exposure can help show the client that he/she is capable of confronting his/her fears and can manage the feelings of anxiety.

**Emotional processing:** During exposure, the client can learn to attach new, more realistic beliefs about feared objects, activities, or situations; and can become more comfortable with the experience of fear

Second line treatment but often used congruently are medications

1st line: SSRI’s

2nd line: Clomipramine (Anafranil), Venlafaxine (Effexor)

Medication dosages usually higher & response takes more time than for other disorders

Augmentation: Risperdal (Risperidone)