

Understanding And Coping With Panick Attacks

Mental Health Vol 10

For other uses, see Panic attack (disambiguation).

Panic attacks, also known as **anxiety attacks**, are periods of intense fear or apprehension of sudden onset accompanied by at least four or more bodily or cognitive symptoms (such as heart palpitations, dizziness, shortness of breath, or feelings of unreality)^[1] and of variable duration from minutes to hours.^[2] Panic attacks usually begin abruptly and may reach a peak within 10 to 20 minutes but may continue for hours in some cases.^{[2][3]} Panic attacks are not dangerous and should not cause any physical harm.^[4]

The effects of a panic attack vary. Some, notably first-time sufferers, may call for emergency services. Many who experience a panic attack, mostly for the first time, fear they are having a heart attack or a nervous breakdown.^[5] Common psychological themes associated with panic attacks include the fears of impending death or loss of sanity; *depersonalisation* is relatively common.

Panic attacks are of acute onset, although acute debilitation (generally severe) may be followed by a period of residually impaired psychological functioning. Repeated panic attacks are considered a symptom of panic disorder.^[6] Screening tools such as the Panic Disorder Severity Scale can be used to detect possible cases of disorder and suggest the need for a formal diagnostic assessment.^{[7][8]}

1 Signs and symptoms

Sufferers of panic attacks often report a fear of dying or heart attack, flashing vision, faintness or nausea, numbness throughout the body, heavy breathing and hyperventilation, or loss of bodily control. Some people also suffer from tunnel vision, mostly due to blood flow leaving the head to more critical parts of the body in defense. These feelings may provoke a strong urge to escape or flee the place where the attack began (a consequence of the sympathetic "fight-or-flight response", in which the hormone causing this response is released in significant amounts). This response floods the body with hormones, particularly epinephrine (adrenaline), that aid it in defending against harm.^[9]

A panic attack is a response of the sympathetic nervous

system (SNS). The most common symptoms may include trembling, dyspnea (shortness of breath), heart palpitations, chest pain (or chest tightness), hot flashes, cold flashes, burning sensations (particularly in the facial or neck area), sweating, nausea, dizziness (or slight vertigo), light-headedness, hyperventilation, paresthesias (tingling sensations), sensations of choking or smothering, difficulty moving, and derealization. These physical symptoms are interpreted with alarm in people prone to panic attacks. This results in increased anxiety and forms a positive feedback loop.^[10]

Often, the onset of shortness of breath and chest pain are the predominant symptoms; the sufferer incorrectly appraises this as a sign or symptom of a heart attack. This can result in the person experiencing a panic attack seeking treatment in an emergency room. However, since chest pain and shortness of breath are indeed hallmark symptoms of cardiovascular illnesses, including unstable angina and myocardial infarction (heart attack), especially in a person whose mental health status and heart health status are not known, attributing these pains to simple anxiety and not (also) a physical condition is a diagnosis of exclusion (other conditions must be ruled out first) until an electrocardiogram and a mental health assessment have been carried out.

Panic attacks are distinguished from other forms of anxiety by their intensity and their sudden, episodic nature.^[9] They are often experienced in conjunction with anxiety disorders and other psychological conditions, although panic attacks are not necessarily indicative of a mental disorder.

2 Causes

- Long-term, predisposing causes – The onset of panic disorder usually occurs in early adulthood, although it may appear at any age. It occurs more frequently in women and often in people with above average intelligence. Various twin studies where one identical twin has an anxiety disorder have reported an incidence ranging from 31 to 88 percent of the other twin also having an anxiety disorder diagnosis. Environmental factors such as an overly cautious view of the world expressed by parents and cumula-

tive stress over time have been found to be correlated with panic attacks.^[9]

- Biological causes – obsessive compulsive disorder, post traumatic stress disorder, hypoglycemia, hyperthyroidism, Wilson’s disease, mitral valve prolapse, pheochromocytoma, and inner ear disturbances (labyrinthitis). Dysregulation of the norepinephrine system in the locus ceruleus, an area of the brain stem, has been linked to panic attacks.^[11]
- Phobias – People will often experience panic attacks as a direct result of exposure to a phobic object or situation.
- Short-term triggering causes – Significant personal loss, including an emotional attachment to a romantic partner, life transitions, significant life change.
- Maintaining causes – Avoidance of panic-provoking situations or environments, anxious/negative self-talk (“what-if” thinking), mistaken beliefs (“these symptoms are harmful and/or dangerous”), withheld feelings.
- Hyperventilation syndrome – Breathing from the chest may cause overbreathing, exhaling excessive carbon dioxide in relation to the amount of oxygen in one’s bloodstream. Hyperventilation syndrome can cause respiratory alkalosis and hypocapnia. This syndrome often involves prominent mouth breathing as well. This causes a cluster of symptoms, including rapid heart beat, dizziness, and lightheadedness, which can trigger panic attacks.
- Situationally bound panic attacks – Associating certain situations with panic attacks, due to experiencing one in that particular situation, can create a cognitive or behavioral predisposition to having panic attacks in certain situations (situationally bound panic attacks).
- Chronic and/or serious illness – Cardiac conditions that can cause sudden death, such as long QT syndrome; catecholaminergic polymorphic ventricular tachycardia or Wolff-Parkinson-White syndrome can also result in panic attacks. This is particularly difficult to manage since the anxiety relates to events that may occur, such as cardiac arrest, or if an implantable cardioverter-defibrillator is *in situ*, the possibility of having a shock delivered. It can be difficult for someone with a cardiac condition to distinguish between symptoms of cardiac dysfunction and anxiety. In CPVT, anxiety itself can and does trigger arrhythmia. Current management of panic attacks secondary to cardiac conditions appears to rely heavily on benzodiazepines, selective serotonin reuptake inhibitors. However, people in this group often experience multiple and unavoidable hospitalizations; in people with these types of diagnoses, it can be difficult to differentiate between symptoms

of a panic attack versus cardiac symptoms without an electrocardiogram.

- Discontinuation or marked reduction in dose of a substance like a drug (drug withdrawal) or an antidepressant (antidepressant discontinuation syndrome) can cause a panic attack.

3 Pathophysiology

While the various symptoms of a panic attack may cause the person to feel that their body is failing, it is in fact protecting itself from harm. The various symptoms of a panic attack can be understood as follows. First, there is frequently (but not always) the sudden onset of fear with little provoking stimulus. This leads to a release of adrenaline (epinephrine) which brings about the so-called fight-or-flight response wherein the person’s body prepares for strenuous physical activity. This leads to an increased heart rate (tachycardia), rapid breathing (hyperventilation) which may be perceived as shortness of breath (dyspnea), and sweating (which increases grip and aids heat loss). Because strenuous activity rarely ensues, the hyperventilation leads to a drop in carbon dioxide levels in the lungs and then in the blood. This leads to shifts in blood pH (respiratory alkalosis or hypocapnia), which in turn can lead to many other symptoms, such as tingling or numbness, dizziness, burning and lightheadedness. Moreover, the release of adrenaline during a panic attack causes vasoconstriction resulting in slightly less blood flow to the head which causes dizziness and lightheadedness. A panic attack can cause blood sugar to be drawn away from the brain and towards the major muscles. It is also possible for the person experiencing such an attack to feel as though they are unable to catch their breath, and they begin to take deeper breaths, which also acts to decrease carbon dioxide levels in the blood.

4 Diagnosis

DSM-5 Diagnostic Criteria for a panic attack include a discrete period of intense fear or discomfort, in which four (or more) of the following symptoms developed abruptly and reached a peak within minutes:

In DSM-5, culture-specific symptoms (e.g., tinnitus, neck soreness, headache, and uncontrollable screaming or crying) may be seen. Such symptoms should not count as one of the four required symptoms.

Some or all of these symptoms can be found in the presence of a Pheochromocytoma.

4.1 Classification

4.1.1 Agoraphobia

Main article: Agoraphobia

Agoraphobia is an anxiety disorder which primarily consists of the fear of experiencing a difficult or embarrassing situation from which the sufferer cannot escape. Panic attacks are commonly linked to agoraphobia and the fear of not being able to escape a bad situation. As the result, severe sufferers of agoraphobia may become confined to their homes, experiencing difficulty traveling from this “safe place”.^[12] The word “agoraphobia” is an English adoption of the Greek words *agora* (ἀγορά) and *phobos* (φόβος). The term “agora” refers to the place where ancient Greeks used to gather and talk about issues of the city, so it basically applies to any or all public places; however the essence of agoraphobia is a fear of panic attacks especially if they occur in public as the victim may feel like he or she has no escape. In the case of agoraphobia caused by social phobia or social anxiety, sufferers may be very embarrassed by having a panic attack publicly in the first place. This translation is the reason for the common misconception that agoraphobia is a fear of open spaces, and is not clinically accurate. Agoraphobia, as described in this manner, is actually a symptom professionals check for when making a diagnosis of panic disorder. Other syndromes like obsessive compulsive disorder or post traumatic stress disorder and social anxiety disorder can also cause agoraphobia; basically any irrational fear that keeps one from going outside can cause the syndrome.^[13]

People who have had a panic attack in certain situations may develop irrational fears, called phobias, of these situations and begin to avoid them. Eventually, the pattern of avoidance and level of anxiety about another attack may reach the point where individuals with panic disorder are unable to drive or even step out of the house. At this stage, the person is said to have panic disorder with agoraphobia. This can be one of the most harmful side-effects of panic disorder as it can prevent sufferers from seeking treatment in the first place.

4.1.2 Panic disorder

Main article: Panic disorder

People who have repeated, persistent attacks or feel severe anxiety about having another attack are said to have panic disorder. Panic disorder is strikingly different from other types of anxiety disorders in that panic attacks are often sudden and unprovoked.^[3] However, panic attacks experienced by those with panic disorder may also be linked to or heightened by certain places or situations, making daily life difficult.^[14]

4.1.3 Experimentally induced panic attacks

Panic attack symptoms can be experimentally induced in the laboratory by various means. Among them, for research purposes, by administering a bolus injection of the neuropeptide cholecystokinin-tetrapeptide (CCK-4).^[15] Various animal models of panic attacks have been experimentally studied.^[16]

5 Treatment

Panic disorder can be effectively treated with a variety of interventions, including psychological therapies and medication^[9] with the evidence that cognitive behavioral therapy has the longest duration of effect, followed by specific selective serotonin reuptake inhibitors.^[17] However, subsequent research by Barbara Milrod and her colleagues^[18] has shown that psychoanalytic psychotherapy is equally effective in relieving panic attacks as behavioral approaches and has fewer relapses. A psychoanalytic approach that identifies actual but dissociated causes of panic reactions may lead to rapid disappearance of symptoms.^[19]

The term *anxiolytic* has become nearly synonymous with the *benzodiazepines* because these compounds have been for almost 40 years the drugs of choice for stress-related anxiety. Low doses of complete agonist benzodiazepines alleviate anxiety, agitation, and fear by their actions on receptors located in the amygdala, orbitofrontal cortex, and insula. Administration of benzodiazepines during a panic attack may result in complete relief from symptoms in as little as ten or fifteen minutes. Benzodiazepines do not treat the source of the underlying fear but rather offer rapid onset relief from the immediate symptoms.

5.1 Breathing exercises

In the great majority of cases hyperventilation is involved, exacerbating the effects of the panic attack. Deliberate deep breathing exercises help to rebalance the oxygen and CO₂ levels in the blood.^[20]

David D. Burns recommends breathing exercises for those suffering from anxiety. One such breathing exercise is a 5-2-5 count. Using the stomach (or diaphragm) — and not the chest — you inhale (feel your stomach come out, as opposed to your chest expanding) for 5 seconds. As you reach the maximal point at inhalation, hold your breath for 2 seconds. Then slowly exhale, over 5 seconds. Repeat this cycle twice and then breathe 'normally' for 5 cycles (1 cycle = 1 inhale + 1 exhale). The point is to focus on the breathing and relax the heart rate. Regular diaphragmatic breathing may also be achieved by extending the outbreath either by counting or even humming.

Although breathing into a paper bag was a common traditional recommendation for attempting short-term treat-

ment of the symptoms of an acute panic attack,^[21] it has more recently been criticized as inferior to measured breathing, even potentially worsening the panic attack, and possibly reducing needed blood oxygen.^{[22][23]} While the paper bag technique increases needed carbon dioxide and so reduces symptoms, it may at the same time excessively lower oxygen levels in the blood stream.^[24] To make matters worse, several studies now show a link between panic attacks and the abrupt increase in CO₂ from the paper bag method, so that use of the paper bag method itself may worsen feelings of panic in patients who might otherwise use measured breathing techniques with success.^[25]

5.2 Therapy

According to the American Psychological Association, “most specialists agree that a combination of cognitive and behavioral therapies are the best treatment for panic disorder. Medication might also be appropriate in some cases.”^[26] The first part of therapy is largely informational; many people are greatly helped by simply understanding exactly what panic disorder is and how many others suffer from it. Many people who suffer from panic disorder are worried that their panic attacks mean they are “going crazy” or that the panic might induce a heart attack. Cognitive restructuring helps people replace those thoughts with more realistic, positive ways of viewing the attacks.^[27]

In deeper level psychoanalytic approaches, in particular object relations theory, panic attacks are frequently associated with splitting (psychology), paranoid-schizoid and depressive positions, and paranoid anxiety. They are often found comorbid with borderline personality disorder and child sexual abuse. Paranoid anxiety may reach the level of a persecutory anxiety state.^[28]

Meditation may also be helpful in the treatment of panic disorders.^[29]

5.3 Dietary changes

Caffeine may cause or exacerbate panic anxiety. Anxiety can temporarily decrease during withdrawal from caffeine and other various drugs.^[30]

5.4 Exercise

Increased and regimented aerobic exercise such as running have been shown to have a positive effect in combating panic anxiety. There is evidence that suggests that this effect is correlated to the release of exercise induced Endorphins and the subsequent reduction of the stress hormone Cortisol.^[31]

There remains a chance of panic symptoms becoming triggered or exacerbated due to increased respira-

tion rate that occurs during aerobic exercise. This increased respiration rate can lead to Hyperventilation and Hyperventilation syndrome which mimics symptoms of a heart attack thus inducing a panic attack.^[32] Benefits of incorporating an exercise regimen have shown best results when paced accordingly.^[33]

6 Prognosis

Many people being treated for panic attacks begin to experience limited symptom attacks. These panic attacks are less comprehensive, with fewer than four bodily symptoms being experienced.^[9]

It is not unusual to experience only one or two symptoms at a time, such as vibrations in their legs, shortness of breath, or an intense wave of heat traveling up their bodies, which is not similar to hot flashes due to estrogen shortage. Some symptoms, such as vibrations in the legs, are sufficiently different from any normal sensation that they clearly indicate panic disorder. Other symptoms on the list can occur in people who may or may not have panic disorder. Panic disorder does not require four or more symptoms to all be present at the same time. Causeless panic and racing heartbeat are sufficient to indicate a panic attack.^[9]

7 See also

- Nervous breakdown

8 References

- [1] “Panic attack - Definition and More from the Free Merriam-Webster Dictionary”. M-w.com. 2010-08-13. Retrieved 2012-06-15.
- [2] Rogge, Timothy. “Panic disorder”. *MedlinePlus*. Retrieved 21 January 2014.
- [3] Panic Disorder – familydoctor.org
- [4] November 12, 2013. What is a panic attack? National Health Service. Retrieved: 4 February 2015.
- [5] Reid, Wilson (1996). “Don't Panic: Taking Control of Your Anxiety Attacks. Revised Edition, HC”.
- [6] DSM-TR diagnostic criteria for panic disorder
- [7] Houck, P. R.; Spiegel, D. A.; Shear, M. K.; Rucci, P. (2002). “Reliability of the self-report version of the Panic Disorder Severity Scale”. *Depressiothe n and Anxiety* **15** (4): 183–185. doi:10.1002/da.10049. PMID 12112724.
- [8] Shear, M. K.; Rucci, P.; Williams, J.; Frank, E.; Grochocinski, V.; Vander Bilt, J.; Houck, P.; Wang, T. (2001). “Reliability and validity of the Panic

- Disorder Severity Scale: Replication and extension". *Journal of Psychiatric Research* **35** (5): 293–296. doi:10.1016/S0022-3956(01)00028-0. PMID 11591432.
- [9] Bourne, E. (2005). *The Anxiety and Phobia Workbook*, 4th Edition: New Harbinger Press.
- [10] Klerman, Gerald L.; Hirschfeld, Robert M. A.; Weissman, Myrna M. (1993). *Panic Anxiety and Its Treatments: Report of the World Psychiatric Association Presidential Educational Program Task Force*. American Psychiatric Association. p. 44. ISBN 978-0-88048-684-2.
- [11] Nolen-Hoeksema, Susan (2013). *(Ab)normal Psychology* (6th ed.). McGraw Hill. ISBN 9780078035388.
- [12] "Agoraphobia". MayoClinic.com. 2011-04-21. Retrieved 2012-06-15.
- [13] Psych Central: Agoraphobia Symptoms
- [14] "Anxiety Disorders"
- [15] Leicht, G; Mulert, C; Eser, D; Sämann, PG; Ertl, M; Laenger, A; Karch, S; Pogarell, O; Meindl, T; Czisch, M; Rupprecht, R (15 February 2013). "Benzodiazepines counteract rostral anterior cingulate cortex activation induced by cholecystokinin-tetrapeptide in humans.". *Biological Psychiatry* **73** (4): 337–44. doi:10.1016/j.biopsych.2012.09.004. PMID 23059050. Retrieved Nov 28, 2014.
- [16] Moreira, FA; Gobira, PH; Viana, TG; Vicente, MA; Zangrossi, H; Graeff, FG (October 2013). "Modeling panic disorder in rodents.". *Cell and tissue research* **354** (1): 119–25. doi:10.1007/s00441-013-1610-1. PMID 23584609. Retrieved March 14, 2015.
- [17] Anxiety: management of anxiety (panic disorder, with or without agoraphobia, and generalised anxiety disorder) in adults in primary, secondary and community care. National Institute for Health and Clinical Excellence. Clinical Guideline 22. Issue date: April 2007 ISBN 1-84629-400-2
- [18] Milrod, B.; Leon, A. C. et al. (2007). "A randomized controlled clinical trial of psychoanalytic psychotherapy for panic disorder". *American Journal of Psychiatry* **164** (2): 265–272. doi:10.1176/appi.ajp.164.2.265. PMID 17267789.
- [19] Blechner, M. (2007). "Approaches to panic attacks". *Neuropsychoanalysis* **9** (1): 93–102.
- [20] Taylor, Jim and Shel (1997). *Psychological Approaches to Sports Injury Rehabilitation*. Google Books: Aspen Publications. p. 228. ISBN 0-8342-0973-X.
- [21] Breathing in and out of a paper bag
- [22] Bergeron, J. David; Le Baudour, Chris (2009). "Chapter 9: Caring for Medical Emergencies". *First Responder* (8 ed.). New Jersey: Pearson Prentice Hall. p. 262. ISBN 978-0-13-614059-7. Do not use a paper bag in an attempt to treat hyperventilation. These patients can often be cared for with low-flow oxygen and lots of reassurance
- [23] Hyperventilation Syndrome – Can I treat hyperventilation syndrome by breathing into a paper bag?
- [24] Breathing into a paper bag restricts the fresh air you are able to get. Without fresh air, less oxygen is inhaled. So, breathing into a paper bag, it is argued, may dangerously lower the amount of oxygen in your bloodstream. Accurate diagnosis is essential, since in rare but documented cases heart attack patients incorrectly thinking they had hyperventilation syndrome may have worsened their heart attacks by failing to take appropriate measures while breathing into a paper bag. http://firstaid.about.com/od/shortnessofbreat1/f/07_paper_bags.htm
- [25] "Hyperventilation Syndrome - Treating hyperventilation syndrome by breathing into a paper bag". Firstaid.about.com. 2007-10-03. Retrieved 2012-08-13.
- [26] <http://www.apa.org/topics/anxietyqanda.html>
- [27] Cramer, K., Post, T., & Behr, M. (January 1989). "Cognitive Restructuring Ability, Teacher Guidance and Perceptual Distracter Tasks: An Aptitude Treatment Interaction Study". Retrieved 2010-11-19.
- [28] Waska, Robert (2010). *Treating Severe Depressive and Persecutory Anxiety States: To Transform the Unbearable*. Karnac Books. ISBN 978-1855757202.
- [29] Kabat-Zinn. "CALM THE PANIC". HEALTH FRONT.
- [30] American Psychiatric Association. (2000). Diagnostic and statistical manual of mental disorders (4th ed., text rev., p. 479). Washington, D.C.: American Psychiatric Association.
- [31] <http://psychcentral.com/blog/archives/2013/07/17/3-tips-for-using-exercise-to-shrink-anxiety/>
- [32] <http://www.nlm.nih.gov/medlineplus/ency/article/003071.htm>
- [33] <http://www.livestrong.com/article/103790-cardio-exercise-beginners>

9 Text and image sources, contributors, and licenses

9.1 Text

- Panic attack** *Source:* http://en.wikipedia.org/wiki/Panic_attack?oldid=659390997 *Contributors:* Bryan Derksen, Tarquin, Stephen Gilbert, PierreAbbat, Karen Johnson, Zadcatt, R Lowry, Patrick, Ixfd64, Sannse, Karada, Ahoerstemeier, Salsa Shark, Palfrey, RI, Maximus Rex, Furrykef, Denelson83, PuzzletChung, Wandering perfect fool, Hadal, Isopropyl, ElBenevolente, GreatWhiteNortherner, Dina, Ksheka, Mintleaf-enwiki, Everyking, Jfdwolff, Eequor, Sonjaaa, Salasks, Phil Sandifer, Nickptar, Lacrimosus, Monkeyman, DanielCD, Discospinster, Rich Farmbrough, Cacycle, Rama, Phyrephox, Pavel Vozenilek, Bender235, Elwikipedista-enwiki, Brian0918, Aranel, Mattingly23, CanisRufus, El C, Kiand, Twilight (renamed), Remember, Sietse Snel, TMC1982, CDN99, Bobo192, Spalding, Deathawk, Tronno, Davidruben, CloudSurfer, Arcadian, Vapier, Llywelyn, Sam Korn, ReconTanto, Alansohn, PopUpPirate, Arthena, Gerry Morrow, Andrew Gray, Echuck215, Ayeroxor, RainbowOfLight, Wadems, Rotring, Versageek, Drbreznjev, Duplode, Galaxiaad, Mahanga, Jonathan de Boyne Pollard, Barrylb, The Wordsmith, SCEhardt, Graham87, Johann Gambolputty-enwiki, FreplySpang, V95micfa, Icey, Rjwilmsi, Astronaut, Bill37212, Lyo, Brighterorange, ShurTape, Noon, Paul Hope, Hottentot, PaulWicks, Generz, Sbrools, Anxietyzone, Bgwhite, Gwernol, YurikBot, Phantomsteve, SpuriousQ, CambridgeBayWeather, Emiellaiendiay, Rsrikanth05, Mike411, Wiki alf, Grafen, ONEder Boy, Cleared as filed, Nephron, JeremyStein, Larry laptop, Rjllabs, IceCreamAntisocial, Xabian40409, Zzuuzz, Gamberro79, Zeppelin4life, Colin, Eqvinox, GraemeL, Shawnc, Arundhati bakshi, ChipperGuy, Katieh5584, North Wolf Inuit, ChemGardener, A bit iffy, SmackBot, Aim Here, KnowledgeOfSelf, McGeddon, Renesis, Frymaster, Edgar181, Stevegallery, Jwestbrook, Gilliam, Brianski, Ohnoitsjamie, Betacommand, Datameister, Scaife, KaragouniS, Philosopher, Fdskjs, Al Pereira, Filipem, A. B., Muboshgu, Yidisheryid, Trypanophobia, Krsont, Jwy, Valenciano, Ged3000, Clicketyclack, MegaHasher, Angela26, Rory096, AThing, Kuru, FrozenMan, Gobonobo, Naniwai, Wagggers, TastyPoutine, Eeblefish, ShakingSpirit, Hu12, גניאל צבי, Jkjones, Roundelais, Killer ninjas, Pooh bear138, Iridescent, Aeternus, Beno1000, LadyofShalott, Ewulp, Linkspamremover, PaddyM, Spindled, ChrisCork, Mikiemike, Enflmdphnx, W guice, Heltec, Argon233, TheExtruder, Brandon.macuser, Shandris, Seven of Nine, Penbat, Xzqx, Fordmadoxfraud, RagingR2, Klassikal, Ctraine, Dodavehu, O. Harris, Gogo Dodo, Anthonycole, Corpx, ST47, Absentis, Eu.stefan, Dancter, Plasticbadge, Scarpy, Vanished User jkfsfajlasd, Nol888, Meol, Epbr123, CopperKettle, N5iln, Martin Rizzo, I do not exist, Klausness, Escarbot, DorisH, KrakatoaKatie, AntiVandalBot, Christinedoby, Opelio, Darklilac, Oddity-, Ingolfson, JAnDbot, Barek, MER-C, CharlesLinden, Roleplayer, anacondabot, SiobhanHansa, Conserrnd, VoABot II, GridEpsilon, Xugglybug, Ecksemmess, Sailormaddy, Catgut, JAltman752, Halogenated, DerHexer, Havoc21, Burns Ave., AVRS, MartinBot, Robert Daoust, Numero4, Icenine378, CommonsDelinker, Nono64, Arana2000, Wiki Raja, Cyrus Andiron, Betty456, Snackycakes, J.delanoy, Trusilver, Aimecifer, LeSaint, Rhinestone K, Paulaloja, Anxietyhelp, Hydroflexology, JeremyWJ, Thomas Larsen, Wedgeantilles, AntiSpamBot, Dehughes, Guymadison, ReveRouge, Laxmikeshav, Bonadea, Vivekkaliyar, Aliciawoo, VolkovBot, Meaningful Username, Indubitably, Soliloquial, Paulee24, Philip Trueman, Seobeglobal, Coder Dan, Cosmic Latte, Bb23, NPrice, Avengerscap, ^demonBot2, Cremepuff222, Onore Baka Sama, Shouriki, G7jqg, Wykypydy, Ketchmd, Oliviapilip, Lova Falk, Jun69, Anxietydetective, Harlequoon, Doc James, Panfakes, Dethroll, Mwalla, Maneroof, SieBot, Gsimon818, YAYsocialism, OpehtRulz, Yintan, Jjwilkinson, Typritic, Keilana, DashaKat, Flyer22, JD554, Wilson44691, Mikebent2007, Zylox, Jon1976, Correogsk, Anchor Link Bot, UB65, DiablosE30, Sapeli, MrADHD, Kinzele, Invertzoo, Mr. Granger, Sfan00 IMG, Kazlow101, ClueBot, Unkle25, Zeke8888, SenseOnes, The Thing That Should Not Be, Pcbule, Trouble18, Fearfactor, DanielDeibler, Tintor2, Blanchardb, JasWalker, Double Happiness, Failure.exe, Noca2plus, LethalReflex, Sspring, NuclearWarfare, Gemini 925, Akingsbu, Etcwebb, Thingg, Quetzapretzel, Teleomatic, The Baroness of Morden, Ubardak, Vanished User 1004, DumZiBoT, Orenshmu, Redgoatsurprise, The Cool Kat, XLinkBot, Rror, CragFace, Wordwebber, Airplaneman, Td506, CuteGirl12, Sec 1971, Addbot, RandySavageFTW, MofoSucus, NextGenn-Gamer, Ocdnctx, Dylanscool247, Flintlock855, Diptanshu.D, Ekologkonsult, Looie496, Download, Glane23, Roux, Tassedethe, Nolelover, Tide rolls, OIEnglish, ماني, Axisloan, Legobot, Comanche82, Yobot, TaBOT-zerem, Ningauble, AnomieBOT, Edaemus, SengXun, lexec1, Jim1138, Flewis, Materialsscientist, Citation bot, Mechamind90, Ibje, Basilisk4u, Aleph Infinity, Xqbot, The sock that should not be, Sunshooter-enwiki, Nasnema, Ridgemaster, Orubicon, MovieNut14, Omnipaedista, Sirdiealot, Healthprofessionalsnetwork, Earlypsychosis, RibotBOT, Shadowjams, Orlando5, Adco88, FrescoBot, Mutual monarch, Mcan2323, Lothar von Richthofen, Kfb56, VS6507, Salty24, Cackles1982, Oscar747, Pinethicket, LiamSP, Jonesey95, LinDrug, Jasonstro, Amaraos, Le17novembre, Bogglevit, Celica9, DinMara, Brian Colborne, Panichelp44, Gabe19, Splimwad, More6592, Tbhotch, Mattscott99, Difu Wu, KennyKings1, Mean as custard, RjwilmsiBot, Blackseng, Beyond My Ken, Bloodleech, Mary S Johnson, NUUMMB, GoingBatty, Thedutchdoctor, Laveciar, NeilK, Swise81, Aiyizo, TeleComNasSprVen, Thecheesykid, JDDJS, Sepguilherme, Shuipzv3, Hbsout, Cobaltcigs, Mysassydate, Mcmatter, Marthad2u, Jacobisq, TyA, Doc murad, Jenasaurr, Chemohan, ChuispastonBot, Senator2029, Sven Manguard, DrD001, Engpery, ClueBot NG, Somedifferentstuff, MelbourneStar, John2906, Tirtzah, Widr, 546sddsad, Premiess, NATIONALGUARD1, WikiTryHardDieHard, Gomada, Backpainadvisor, ArdynnPR, יעליק, Dr. Whooves, Zahinti, Brian12588, Treehousedweller, Starsmoke, MrBill3, Puma9426, Acuboy, Cloptonson, JCJC777, Stopapanicattack, Loadsamoolah, Uofhealth, Fredlox87, Kbog, Cicciodisedano, Lugia2453, Tellyouthesame, QuickscopeS, AldezD, Edlove4044, Fox2k11, Dasvidania, HullIntegrity, Ermacora, Pseudonymous Rex, Jodosma, Burrrnsy, Edward Sodaro MD, YiFeiBot, Ginsuloft, Wordsmith17, Smcginnity, DisneySwan1990, Sanddling, Neuralia, Getwreckedkid, Perfect Orange Sphere, Monkbot, Suziiiiiiiiiii, BethNaught, Wiki winkers, Philipxd, Jasa124, Jrandal22, Deanaty5, Vatadoshu, Qwerty12332111, Hokiehailer, AhmedHassantoday, Symptomsofapanicattack, Esebede, Arodriguez823 and Anonymous: 794

9.2 Images

9.3 Content license

- Creative Commons Attribution-Share Alike 3.0