

# Mass Psychogenic Illness: Role of the Individual Physician

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See related patient information handout on **psychogenic illness** (<https://www.aafp.org/afp/2000/1215/p2655.html>), written by the author of this article.

*This article exemplifies the AAFP 2001 Annual Clinical Focus on allergies and asthma.*

**Mass psychogenic illness is characterized by symptoms, occurring among a group of persons with shared beliefs regarding those symptoms, that suggest organic illness but have no identifiable environmental cause and little clinical or laboratory evidence of disease. Mass psychogenic illness typically affects adolescents or children, groups under stress and females disproportionately more than males. Symptoms often follow an environmental trigger or illness in an index case. They can spread rapidly by apparent visual transmission, may be aggravated by a prominent emergency or media response, and frequently resolve after patients are separated from each other and removed from the environment in which the outbreak began. Physicians should consider this diagnosis when faced with a cluster of unexplained acute illness.**

*Falsehood flies and the truth comes limping after; so that when men come to be undeceived it is too late: the jest is over and the tale has had its effect.*

—Jonathan Swift (1710)<sup>1</sup>

Mass psychogenic illness involves people with real symptoms that are often triggered by misunderstood or false information. Unfortunately, by the time many outbreaks are recognized as psychogenic illness, they have had a devastating effect on the communities and individuals involved.

Mass psychogenic illness, also referred to as mass hysteria, has been described for more than 600 years in a variety of cultures and settings<sup>2,3</sup> but is seldom addressed during medical training. It can be difficult to differentiate from bioterrorism, rapidly spreading infection or acute toxic exposure. Epidemics of psychogenic illness often attract substantial media attention and may have profound public health, social and economic repercussions. Appropriate recognition of and response to such incidents by physicians can have a substantial impact on the outcome.

Historically, a wide variety of crazes and abnormal group behaviors have been attributed to mass psychogenic illness.<sup>2</sup> These have ranged from medieval dancing mania<sup>4</sup> to a recent wave of illness after soft-drink consumption in Belgium.<sup>5</sup> Outbreaks of psychogenic illness are likely to be more common than is currently appreciated, and many may go unrecognized.<sup>6</sup>

## Illustrative Case

A high-school teacher noted a gasoline-like odor in her classroom one morning. She developed headache, nausea, shortness of breath and dizziness. Students began complaining of similar symptoms. The school was evacuated, and emergency personnel from several counties responded. That day, 100 people went to a local emergency department with symptoms reportedly related to exposure at the school. Five days later, the outbreak recurred. The school was closed that day, and approximately 70 people sought emergency care.

Physical examination and laboratory testing revealed no evidence of a toxic cause for the symptoms. A thorough multiagency environmental examination also failed to identify an explanation for the outbreak. Persons with symptoms were more likely than those not having symptoms to be female, to have seen another person become ill and to report smelling an odor.<sup>6</sup>

## Recognition of the Phenomenon

Mass psychogenic illness has been defined as a constellation of symptoms suggestive of organic illness, with no identifiable cause and little clinical or laboratory evidence of disease, which occurs among persons who share beliefs regarding their symptoms.<sup>2,7</sup> It is not simply a “diagnosis of exclusion.” Early consideration of the diagnosis may help prevent further morbidity. The author's review of the medical literature pertaining to both mass psychogenic illness and epidemic illness related to toxic exposures suggests that there have been few outbreaks of acute illness with minimal abnormal physical and laboratory findings that were due to confirmed toxic exposures and where the cause was not quickly apparent to investigators.

From 1973 to 1993, one half of reported outbreaks of psychogenic illness occurred in schools, followed by factories (29 percent), towns and villages (10 percent), families and other institutions.<sup>2</sup> Outbreaks often occur in groups experiencing physical or emotional stress.<sup>7</sup>

Symptoms commonly described in mass psychogenic illness are listed in [Table 1](#).<sup>6-14</sup> Outbreaks often involve acute onset and rapid spread of symptoms with minimal physical or abnormal laboratory findings (except those associated with hyperventilation). Person-to-person spread within minutes has been called pathognomonic of this illness,<sup>15</sup> although it is not always present. Symptoms may suggest an environmental cause, but no such cause can be identified, and other putatively exposed persons do not become ill. Rash has been described in several outbreaks of psychogenic illness. In such situations, rash often may be associated with pruritus and may occur on exposed skin in a distribution that suggests scratching as a cause.<sup>16,17</sup>

TABLE 1

**Predominant Symptoms in Nine Outbreaks of Mass Psychogenic Illness\***

<i>SYMPTOM</i>	<i>PATIENTS REPORTING (%)†</i>
Headache	67
Dizziness or light-headedness	46
Nausea	41
Abdominal cramps or pain	39
Cough	31
Fatigue, drowsiness or weakness	31
Sore or burning throat	30
Hyperventilation or difficulty breathing	19
Watery or irritated eyes	13

Reported outbreaks affect females disproportionately more often than males, and frequently involve adolescents or children.<sup>2</sup> Incidents often follow an environmental trigger such as an odor,<sup>9,10,12</sup> and many outbreaks are preceded by illness in an index case that generates a substantial emergency response.<sup>2,6,9,10,18</sup> Illness can spread through exposure to audiovisual cues<sup>7,10</sup> and by “line-of-sight” transmission. The latter term refers to the apparent spread of symptoms among persons who see others become ill. Symptoms can recur in the setting of the initial outbreak.<sup>7</sup> Media coverage frequently escalates such outbreaks.<sup>7,18–20</sup> Epidemiologic characteristics frequently associated with mass psychogenic illness are summarized in [Table 2](#).

TABLE 2

### **Common Characteristics of Mass Psychogenic Illness**

Often occurs after exposure to an environmental trigger (e.g., odor, emergency response, rumor, reported toxin, etc.).

Females affected disproportionately more often than males.

Adolescents and children affected.

Patients with psychologic or physical stress affected.

Symptoms spread and resolve rapidly.

Symptoms inconsistent with a single biologic etiology.

Symptoms may include hyperventilation or syncope.

Symptoms associated with minimal physical or laboratory findings.

Symptoms spread by “line-of-sight” transmission (i.e., seeing or hearing of another ill person causes symptoms).

Illness may recur with return to environment of initial outbreak.

Unfortunately, there is no single definitive diagnostic trait of mass psychogenic illness. Exceptions to each of the typical characteristics have been reported. An outbreak of “mass hysteria by proxy” has even been documented, in which anxiety transmitted among parents led to reports of symptoms in students.<sup>7</sup> The diagnosis of mass psychogenic illness shares many characteristics with sick building syndrome and other such illnesses,<sup>21</sup> further obscuring the issue for physicians. Potential litigation or monetary compensation for mass psychogenic illness can complicate outbreaks<sup>2,19</sup> and may make it difficult to differentiate between illness and malingering.

### **Response to an Outbreak**

Recognizing mass psychogenic illness is a critical first step for all health care professionals in appropriately responding to such outbreaks. Approaches to handling mass psychogenic illness are outlined in [Table 3](#). Once the diagnosis is determined, reassuring patients is the primary therapy. Separating them can be beneficial.<sup>9,10</sup> Most patients experience rapid resolution of symptoms once they are removed from the environment in which the outbreak started. In treating individual patients, it is important to acknowledge that although no toxic cause of their illness has been identified, the person's symptoms are real. A diagnosis of mass psychogenic illness is not equivalent to saying that the symptoms are just "in the patient's mind." It is also important to emphasize that mass psychogenic illness affects normal, healthy persons and does not imply underlying psychopathology.

[View/Print Table](#)

### TABLE 3

#### **Recommended Approach to Patients with Mass Psychogenic Illness**

Attempt to separate persons with illness associated with the outbreak.

Promptly perform physical examination and basic laboratory testing sufficient to exclude serious acute illness.

Monitor and provide oxygen as necessary for hyperventilation.

Minimize unnecessary exposure to medical procedures, emergency personnel, media or other potential anxiety-stimulating situations.

Notify public health authorities of apparent outbreak.

Openly communicate with physicians caring for other patients.

Promptly communicate results of laboratory and environmental testing to patients.

While maintaining confidentiality, explain that other people are experiencing similar symptoms and improving without complications.

Remind patients that rumors and reports of "suspected causes" are not equivalent to confirmed results.

Acknowledge that symptoms experienced by the patient are real.

In many cases in which an outbreak is triggered by a person with an illness, the “index case” cannot be attributed to mass hysteria because there was no group phenomenon occurring at the time. The cause of symptoms in the initial person or group may be different from the cause in others who are affected during a rapidly escalating outbreak. Similarly, any large group involved in an outbreak may include individual persons with unrelated organic causes of illness. Persons with severe, persistent or unusual symptoms should be carefully evaluated for other possible etiologies.

Frequently, when the first patients in an outbreak of psychogenic illness are examined, extensive laboratory testing is ordered in an effort to elucidate a physiologic diagnosis. If initial basic laboratory test results are normal, patients are stable and the circumstances of the outbreak suggest mass psychogenic illness as the etiology, further testing may not be indicated. Physicians are trained to search for an organic cause of disease, and it can be very difficult to resist pressure to perform increasingly obscure tests in search of an elusive diagnosis, particularly amid the substantial public concern frequently generated by such outbreaks.

Nonetheless, ordering large numbers of tests can be problematic. The well-known adage, “If you order enough tests, something will come back abnormal,” can leave a physician having to explain an abnormal result to a patient who has symptoms that may be completely unrelated to that parameter. In addition, extensive testing can fuel perceptions that a physiologic or toxic cause of the illness is suspected and may be interpreted as inconsistent with reassuring messages.

In approaching mass psychogenic illness, the goal should be to restore individual persons and the community to routine function as quickly as possible. Prompt and definitive identification and labeling of episodes has been advocated as important in terminating them,<sup>22</sup> but such an approach can be very difficult in practice. Labeling an outbreak as psychogenic may minimize unnecessary testing and halt spread, but the perception of a less than thorough investigation can lead to mistrust and anger.

Another strategy involves reassuring patients while avoiding naming the illness. This approach does not provide a “diagnosis,” and the absence of an identified source may lead to continued concern, symptom spread and increased testing.

In any approach to mass psychogenic illness, a prompt, coordinated response is important in resolving widespread community anxiety surrounding these episodes. Health care personnel are often unprepared to handle this intense anxiety. As concerns about bioterrorism increase, the frequency of such incidents and the anxiety surrounding unexplained epidemic illness may intensify. Physicians should discuss the diagnosis of mass psychogenic illness with colleagues to garner support for subsequent actions. Promptly notifying emergency response and public health personnel, and openly discussing with them the reasoning behind and appropriate handling of such a diagnosis, are critical in effectively and consistently responding to such emergencies. Communication with the media should be handled by a limited number of people who deliver a consistent message.

## **The Author**

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## REFERENCES [show all references](#)

1. Ellis FH, ed. Swift vs. Mainwaring: the Examiner and the Medley. Oxford: Clarendon, 1985:19–26....

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