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## SCHIZOPHRENIA

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### FOR PATIENTS AND FAMILIES

Schizophrenia is a disease that produces a wide range of mental symptoms, but the hallmark of schizophrenia is **psychosis**. It is a psychotic disorder that is characterized by hallucinations, delusions, abnormal emotions, impaired

**Delusions** are false beliefs or perceptions about something or someone. For examples, a *grandiose delusion* is a belief by a person that he or she has extraordinary power or ability, and a *paranoid delusion* is a persecutory suspicion held by the person that someone or something is out to control or harm him or her.

**Hallucinations** are false sensations. They can be heard (*auditory*), seen (*visual*), smelled (*olfactory*), tasted (*gustatory*), or felt (*tactile*). Schizophrenic patients commonly have auditory hallucinations, particularly early in the course of illness. **Command hallucinations** command the individual to do something, which may be harmful to self or others.

thinking, and behavioral changes when the individual loses the ability to separate his or her thoughts and perceptions from reality of the external world. The symptoms of hallucinations, delusions, bizarre behavior, and thought disorder are also called **positive symptoms** of schizophrenia, because these symptoms are obviously abnormal or in excess of what is normal when emotions or behavior may be greatly exaggerated or inappropriate to the situation.

A dimension of schizophrenia that is less obvious, but common, is the presence of impaired emotional responsiveness in schizo-

phrenic patients. The deficit symptoms are called **negative symptoms** of schizophrenia. Negative symptoms are characterized by flat or blunted emotions, impoverishment of speech, loss of motivation and initiative, inability to experience or derive pleasure from daily life, and attention deficit. When patients experience negative symptoms, they show very little emotion and enthusiasm or derive little enjoyment or pleasure from life (**anhedonia**), and they have marked loss of energy to initiate any goal-directed behavior.

*Psychosis* is a clinical term to delineate a mixture of symptoms that must minimally include delusions and hallucinations. Besides schizophrenia, psychosis is associated with many other psychiatric disorders, including substance-induced psychosis, mania, and psychotic depression. However, schizophrenia is the most recognized of the psychotic disorders.

Other symptoms of schizophrenia include lack of insight and judgment, disorganized thinking, loss of interest in personal appearance and hygiene, and deterioration of social behavior. With poor insight, patients may not be compliant with taking medications because they do not think they are ill. Rates of alcohol and drug abuse are high among schizophrenic patients. Their susceptibility to substance abuse may stem from their lack of insight and judgment. Moreover, they may use alcohol and drugs to quiet their symptoms (e.g., voices) when they are not taking their medications. Disorganized thinking in patients with schizophrenia is distinct from their delusions and hallucinations, and schizophrenia is often characterized as a **thought disorder**. As a result, the content of their speech may be illogical, disorganized, loosely associated, and often bizarre. The deterioration of social behavior may result from the confluence of symptoms, and the patient becomes unkempt and odorous, ignores his or her social surroundings, and behaves inappropriately in public.

### DIAGNOSIS AND SUBTYPES OF SCHIZOPHRENIA

Schizophrenia must fulfill several diagnostic criteria in the following categories: 1) characteristic symptoms, 2) duration, 3) social and occupational dysfunction, and 4) exclusion of other causes.

The diagnosis must have two or more of the following characteristic symptoms:

- Delusions
- Hallucinations
- Disorganized speech
- Grossly disorganized or catatonic behavior
- Negative symptoms

Symptoms must persist continuously for at least 6 months. Since the onset of symptoms, problems with interpersonal relationships, at work, or at school have significantly disrupted the patient's life. The patient's disturbance is not due to other causes, such as substance-induced psychosis, a medical condition, or another psychiatric disorder.

Five subtypes of schizophrenia are recognized:

- *Catatonic* schizophrenia is associated with disturbance of movement. Movement may be decreased to the point that the individual is unable to speak (mutism), assumes strange postures, or becomes rigid. Or, the movements may be excessive, purposeless activity and totally dissociated from the individual's surroundings.
- *Paranoid* schizophrenia is defined by the predominance of one or more delusions or auditory hallucinations, which are usually persecutory in nature. The paranoid delusions and hallucinations are usually organized and systemized (there is a theme to them) and relatively consistent. Individuals with paranoid schizophrenia are often angry, argumentative, and violent.
- *Disorganized* schizophrenia is characterized by disorganized speech and behavior. The delusions and hallucinations are fragmented and disorganized and do not have the coherent theme found in paranoid schizophrenia. Hence the content of the speech of patients with the disorganized type is extremely loose and difficult to follow. Their behavior seems purposeless, silly, and childlike.
- *Undifferentiated* schizophrenia is a subtype for those symptoms that do not fit into the other categories.
- *Residual* schizophrenia is a category that describes the situation in which a patient's psychotic symptoms (i.e., positive symptoms) have subsided but residual symptoms (i.e., negative symptoms), such as emotional blunting, social withdrawal, illogical thinking, disturbance in thinking, or eccentric behavior, persist.

However, subtyping is not always accurate or reliable, because a patient's symptoms may change over the course of illness and, in many cases, fit several subtypes. It is practical to describe the patient's prominent symptoms.

## COURSE OF ILLNESS

Schizophrenia is one of the most devastating mental illnesses that can afflict a person, leading to a lifetime of debilitations. In the United States, schizophrenia affects about 1%–1.5% of the population. Approximately 3 to 5 million people may have schizophrenia at any given time. It affects men and women equally, but men tend to have an earlier onset than women. The onset for men is usually between the ages of 15 and 25; for women, in contrast, the onset is usually between the ages of 25 and 35.

Usually, the onset of schizophrenia is gradual, with a premonitory, or *prodromal*, phase before there is evidence of psychosis. The patient may withdraw from friends and family, become less communicative, display peculiar changes in behavior, have blunted emotions, and express strange ideas or become excessively religious. By themselves, none of these early symptoms fulfills the diagnostic criteria for schizophrenia. When psychotic symptoms initially appear, it is apparent that the individual is psychotic, and a clinical diagnosis of schizophrenia can be made. The psychotic phase of the disease is also called the *active phase* of schizophrenia. During a psychotic break, or episode, the individual may have a wide range of positive symptoms,

including hallucinations and delusions. As positive symptoms subside with medical intervention, the individual enters into the *residual phase* of the illness. During the residual phase, psychotic symptoms may be present, but at a lower intensity than during the active phase, with negative symptoms being most prominent.

The clinical course and outcome in schizophrenia vary with patients. Some patients may go into remission and are relatively free of symptoms, while others may continue to have some residual symptoms. Furthermore, those who have severe, unremitting psychosis may require hospitalization in mental institutions.

Unfortunately, schizophrenia is a chronic illness, and for most patients the illness may wax and wane for many years. Some patients may remain in remission and symptom-free for years. For the vast majority of patients, however, the cycle of relapse and remission is the general course of schizophrenia. Over time, the morbidity of the disease increases as patients' residual symptoms become more persistent and their level of functioning further decreases.

The risk of suicide is high, particularly early in the course of schizophrenia. About one-third of patients will attempt suicide, and about 1% will take their lives. However, the risk of suicide apparently decreases over time as the individual adapts to the illness.

## CAUSE OR ETIOLOGY

The causes of schizophrenia are unknown, but there is strong evidence that some aspects of the illness are hereditary, or genetically linked. The consensus among experts is that schizophrenia is inherited and that an individual carries a genetic predisposition for the disease. However, the disease is not manifested unless other factors come into play to trigger the expression of the genes that code for the disease. These factors may be biological or may be related to the individual's psychosocial environment. For example, family members or friends can often identify some event or stressor in the patient's past that led to the "nervous breakdown," which was subsequently diagnosed as schizophrenia. And according to the experts, the individual with a heavy genetic load (genes) for the disease has greater susceptibility and vulnerability for developing schizophrenia at a younger age.

The pattern of inheritance in schizophrenia comes from family studies. Siblings of schizophrenic patients have a 10% chance of developing schizophrenia. If one of the siblings with schizophrenia is an identical twin, the other has a 46% chance of developing the illness, whereas in fraternal twins the rate is only 14%. In families in which one parent is afflicted with schizophrenia, there is a 5%–6% chance the children may develop the disease. However, when both parents have schizophrenia, the risk of their children developing the disease increases to 46%. The exact role that heredity plays in schizophrenia is unknown because the disease is confounded by many factors, including those exerted by the individual's environment.

## TREATMENT

### Medication

The standard treatment for schizophrenia is antipsychotic medications. **Chlorpromazine** (Thorazine), the first antipsychotic introduced to psychiatry over 50 years ago, changed the course of treating schizophrenia and mental illness in general. The next major breakthrough came almost 20 years later with the discovery of **clozapine** (Clozaril), the first in the class of a second generation of novel antipsychotics. In the past 10 years, five other second-generation antipsychotics have been introduced: **risperidone** (Risperdal), **olanzapine** (Zyprexa), **quetiapine** (Seroquel), **ziprasidone** (Geodon), and **aripiprazole** (Abilify). These antipsychotics represent a major advancement in the treatment of schizophrenia, and they are the mainstay of treatment for schizophrenia, replacing the first-generation antipsychotics such as chlorpromazine, **haloperidol** (Haldol), and **fluphenazine** (Prolixin). For a discussion of antipsychotic medications, see *Part 3 (Information About Medications for Patients and Families)*.

When clozapine was introduced for treatment of schizophrenia, it proved to be a remarkable drug. Clinical studies showed that about one-third of the patients who did not respond (treatment-resistant) to other antipsychotics improved when they were treated with clozapine. Clozapine, however, is reserved as a second-line treatment when patients do not respond to two or more trials of other antipsychotics. Clozapine is not widely used because it is associated with a rare, but potentially fatal, reaction that destroys an individual's white blood cells (**agranulocytosis**). Clozapine requires weekly or biweekly blood testing to monitor the patient's white blood cells. The medication is interrupted or discontinued when the number of white blood cells drops. Many patients find it difficult to follow a regimen of weekly or biweekly monitoring. However, for patients who benefit from clozapine, the successful outcome may convince them that the inconvenience of routine blood tests is worth the effort.

The other second-generation antipsychotics differ little in their ability to treat schizophrenia, and for the most part, their differences lie in their side effects. Unlike clozapine, aripiprazole, olanzapine, risperidone, quetiapine, and ziprasidone have not been associated with agranulocytosis. Therefore, they do not require routine laboratory monitoring of white blood cells. These agents have become first-line therapies for treating schizophrenia; the first-generation antipsychotics are relegated to backup therapies. A physician's decision to use one antipsychotic over another may be based on the patient's previous response to medications or on the side-effect profile of the antipsychotic that is most compatible for the patient.

Haloperidol, fluphenazine, and risperidone are also available in long-acting injections for intramuscular administration. Haloperidol and fluphenazine come in **decanoate** injections—**haloperidol decanoate** (Haldol Decanoate) and **fluphenazine decanoate** (Prolixin Decanoate)—whereas risperidone injection (**Risperdal Consta**), using modern technology, incorporates the drug into microspheres. The injected antipsychotic is slowly absorbed from the muscle tissues. This gives haloperidol decanoate a duration of action of about 4 weeks, and fluphenazine decanoate and Risperdal Consta a duration of action of about 2 weeks. The long-acting injections provide an alternative to taking oral medications and are particularly helpful for patients who have difficulty adhering to a medication schedule.

Unlike the older antipsychotics, the second-generation agents have a much lower propensity to cause neurologic side effects that result in intolerable movement disorders. Because of the neurological side effects they produce, the typical antipsychotics are also known as **neuroleptics**. With few side effects, patients are usually more compliant with taking atypical antipsychotics.

In an acutely psychotic state, patients are managed in an acute inpatient psychiatric hospital where they can be closely monitored. During an acute episode, higher doses of antipsychotic medications may be needed. Moreover, antipsychotic medications in liquid and injectable forms may be administered to patients who are too agitated or noncompliant with taking medications. Once psychotic symptoms are under control and the patient is ready to be discharged, the physician will usually have the patient continue taking the antipsychotic medication. The patient begins taking a maintenance dose of the antipsychotic, which may be lower than the previous inpatient dose. Often, patients (and family members) ask how long they must continue taking the antipsychotic medications. Generally, patients benefit from continuing treatment to prevent relapse. If it is the patient's first psychotic episode, maintenance treatment for at least 1–2 years is recommended to prevent emergence of symptoms. On the other hand, if the patient has had multiple episodes, the patient may need life-long antipsychotic therapy, because the risk of relapse is higher.

## **Psychosocial Support**

Although antipsychotic medications are the foundation for treating schizophrenia, providing the patient with psychosocial support is also important for improving outcome and preventing relapse. Psychosocial support is directed toward helping the patient and family members in the following areas:

- Learning and understanding schizophrenia and coming to terms with it
- Learning to recognize, avoid, and cope with stressful situations in preventing relapse
- Teaching the patient living and social skills, depending on the level of function
- Providing medication education to help the patient (and family members) understand his or her medications, the side effects of the medications, and the importance of medication compliance
- Providing social services to the patient and family members to ensure the patient receives adequate mental health care and community services
- Preventing the patient from seeking high-risk behavior, such as using drugs and alcohol

**If you have any questions about this handout, please consult your physician.**

## **SUPPORT AND ADVOCACY GROUPS**

National Alliance for the Mental Ill (NAMI)  
Colonial Place Three  
2107 Wilson Blvd., Suite 300  
Arlington, VA 22201-3042  
Phone: (800) 950-NAMI (6264); (703) 524-7600  
Web site: [www.nami.org](http://www.nami.org)  
*Provides self-help and advocacy for persons with mental illness and their families.*

National Mental Health Consumers' Self-Help  
Clearinghouse  
1211 Chestnut Street, Suite 1207  
Philadelphia, PA 19107  
Phone: (800) 553-4KEY (4539); (215) 751-1810  
Web site: [www.mhselfhelp.org](http://www.mhselfhelp.org)  
*Connects individuals to self-help and advocacy resources.*

National Alliance for Research on Schizophrenia  
and Depression  
60 Cutter Mill Road, Suite 404  
Great Neck, NY 11021  
Phone: (800) 829-8289  
Web site: [www.narsad.org](http://www.narsad.org)  
*A donor-supported organization whose mission is to raise funds for scientific research on psychiatric brain disorders.*