The Sexual Response Cycle

Although we may be culturally attuned to focus on gender differences rather than similarities,

Masters and Johnson (1966) found that the biological responses of males and

females to sexual stimulation—that is, their sexual response cycles—are quite similar.

Masters and Johnson used the term **sexual response cycle** to describe the changes

that occur in the body as men and women become sexually aroused. They divided the

sexual response cycle into four phases: excitement, plateau, orgasm, and resolution.

Figure 13.4 suggests the levels of sexual arousal associated with each phase.

The sexual response cycle is characterized by **vasocongestion** and **myotonia.** Vasocongestion

is the swelling of the genital tissues with blood. It causes erection of the penis

and swelling of the area surrounding the vaginal opening. The testes, the nipples,

and even the earlobes swell as blood vessels dilate in these areas (yes—the earlobes).

Myotonia is muscle tension. It causes facial grimaces, spasms in the hands and

feet, and then the spasms of orgasm.

Excitement Phase

Vasocongestion during the **excitement phase** can cause erection in young men as soon

as 3 to 8 seconds after sexual stimulation begins. The scrotal skin also thickens, becoming

less baggy. The testes increase in size and become elevated.

In the female, excitement is characterized by vaginal lubrication, which may start

10 to 30 seconds after sexual stimulation begins. Vasocongestion swells the clitoris

and flattens and spreads the vaginal lips. The inner part of the vagina expands. The

breasts enlarge, and blood vessels near the surface become more prominent.

In the excitement phase the skin may take on a rosy sex flush. This is more pronounced

in women. The nipples may become erect in both men and women. Heart rate

and blood pressure also increase.

**Levels of Arousal During the Phases of the Sexual Response Cycle**

Masters and Johnson divide the sexual response cycle into four phases: excitement,

plateau, orgasm, and resolution. During the resolution phase, the level of sexual arousal

returns to the prearoused state. For men there is a refractory period following orgasm. As

shown by the broken line, however, men can become rearoused to orgasm once the refractory

period is past and their levels of sexual arousal have returned to preplateau levels.

Pattern A for women shows a response cycle with multiple orgasms. Pattern B shows the

cycle of a woman who reaches the plateau phase but for whom arousal is “resolved”

without reaching the orgasmic phase. Pattern C shows the possibility of orgasm in a highly

aroused woman who passes quickly through the plateau phase.

Plateau Phase

The level of sexual arousal remains somewhat stable during the **plateau phase** of the

cycle. Because of vasocongestion, men show some increase in the circumference of

the head of the penis, which also takes on a purplish hue. The testes are elevated into

position for ejaculation and may reach one and a half times their unaroused size.

In women, vasocongestion swells the outer part of the vagina, contracting the vaginal

opening in preparation for grasping the penis. The inner part of the vagina expands

further. The clitoris withdraws beneath the clitoral hood and shortens.

Breathing becomes rapid, like panting. Heart rate may increase to 100 to 160 beats

per minute. Blood pressure continues to rise.

Orgasmic Phase

The **orgasmic phase** in the male consists of two stages of muscular contractions. In

the first stage, semen collects at the base of the penis. The internal sphincter of the urinary

bladder prevents urine from mixing with semen. In the second stage, muscle contractions

propel the ejaculate out of the body. Sensations of pleasure tend to be related

to the strength of the contractions and the amount of seminal fluid present. The first 3

to 4 contractions are generally most intense and occur at 0.8-second intervals (5 contractions

every 4 seconds). Another two to four contractions occur at a somewhat

slower pace. Rates and patterns can vary from one man to another.

Orgasm in the female is manifested by 3 to 15 contractions of the pelvic muscles

that surround the vaginal barrel. The contractions first occur at 0.8-second intervals. As

in the male, they produce release of sexual tension (Meston & Frohlich, 2000). Weaker

and slower contractions follow.

Erection, vaginal lubrication, and orgasm are all reflexes. That is, they occur automatically

in response to adequate sexual stimulation. Of course, the decision to enter a sexual

relationship is voluntary, as are the decisions to kiss and fondle each other, and so on. Blood pressure and heart rate reach a peak, with the heart beating up to 180 times

per minute. Respiration may increase to 40 breaths per minute.

Resolution Phase

After orgasm the body returns to its unaroused state. This is called the **resolution**

**phase.** After ejaculation, blood is released from engorged areas, so that the erection

disappears. The testes return to their normal size.

In women, orgasm also triggers the release of blood from engorged areas. The nipples

return to their normal size. The clitoris and vaginal barrel gradually shrink to their

unaroused sizes. Blood pressure, heart rate, and breathing also return to their levels before

arousal. Both partners may feel relaxed and satisfied.

Unlike women, men enter a **refractory period** during which they cannot experience

another orgasm or ejaculate. The refractory period of adolescent males may last

only minutes, whereas that of men age 50 and above may last from several minutes to

a day. Women do not undergo a refractory period and therefore can become quickly

rearoused to the point of repeated (multiple) orgasm if they desire and receive continued

sexual stimulation.

Sexual Response Cycle: How Our Bodies Respond to Sexual Stimulation

***IN MALES IN FEMALES IN BOTH GENDERS***

 **Excitement Phase**

Vasocongestion results in erection. Vasocongestion swells vaginal tissue, clitoris, and Vasocongestion of genital tissues occurs.

 the area surrounding the opening of the vagina.

The testes begin to elevate. Vaginal lubrication appears. Heart rate, muscle tension (*myotonia*), and

blood pressure increase.

Skin on the scrotum tenses and The inner two-thirds of the vagina expand and Nipples may become erect.

thickens. walls thicken and turn a deeper color.

 **Plateau Phase**

The tip of the penis turns a deep Inner two-thirds of vagina expand fully. Vasocongestion increases

reddish-purple.

Testes become completely elevated. Outer third of vagina thickens. Myotonia, heart rate, and blood pressure

continue to increase.

Droplets of semen may be released Clitoris retracts behind its hood.

from penile opening before

ejaculation.

 The uterus elevates and increases in size.

 **Orgasmic Phase**

Sensations of impending ejaculation Contractions of the pelvic muscles Orgasm releases sexual tension and produces

lasting 2 to 3 seconds precede the surrounding the vagina occur intense feelings of pleasure.

ejaculatory reflex.

Orgasmic contractions propel semen Muscle spasms occur throughout the body; blood

through the penis and out of the body. pressure, heart rate, and breathing rate reach a

 peak.

 **Resolution Phase**

Men become physiologically Multiple orgasms may occur if the woman Lacking continued sexual stimulation, myotonia

incapable of achieving another desires it and sexual stimulation continues and vasocongestion lessen and the body

orgasm or ejaculation for a period gradually returns to its prearoused state.

of time called a refractory period.