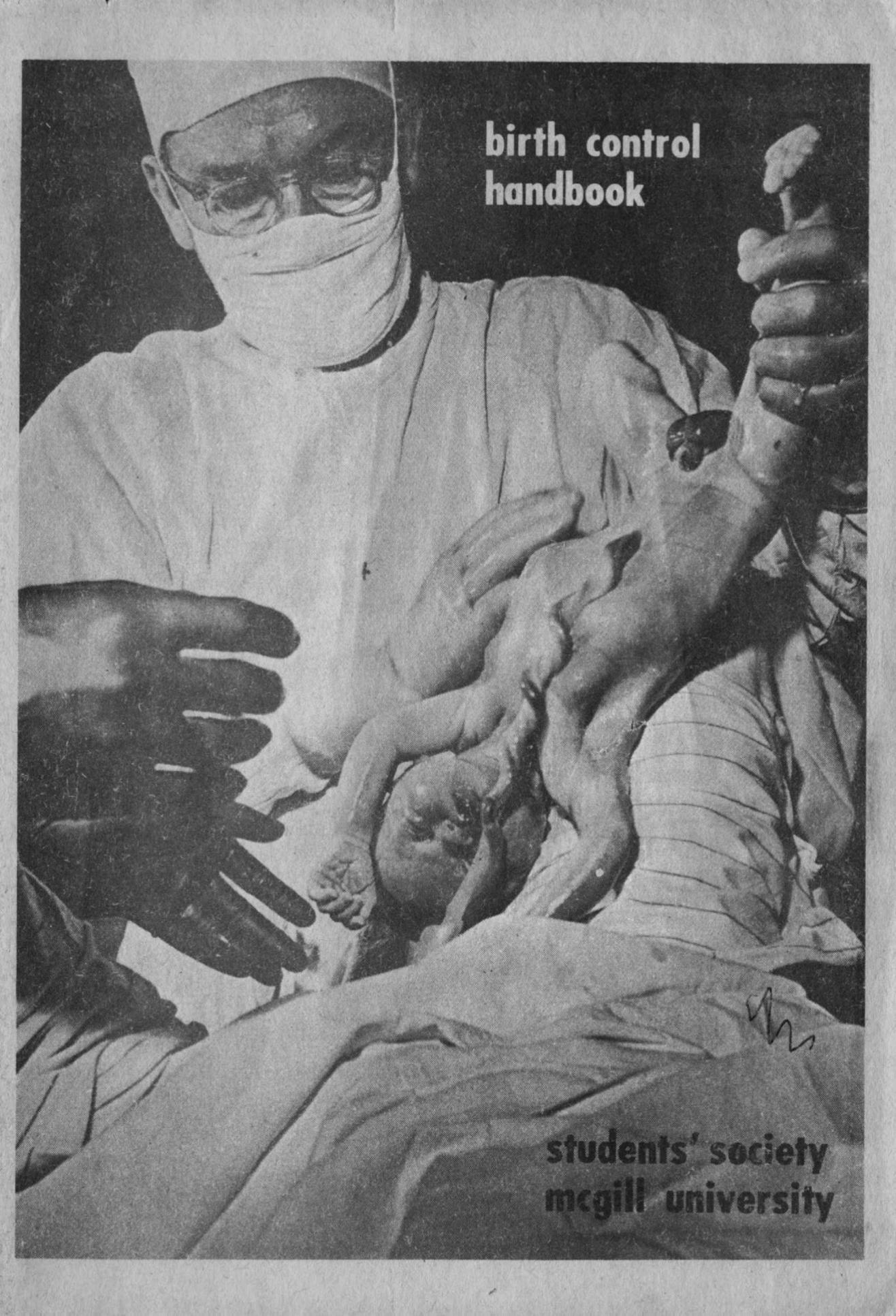




**birth control  
handbook**

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## The Birth Control Handbook

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### contents

anatomy .....	2
hormonal balances and the menstrual cycle .....	5
oral contraceptives .....	7
condom .....	11
intrauterine devices .....	14
diaphragm and jelly .....	16
vaginal spermicidal contraceptives .....	19
rhythm .....	22
coitus interruptus .....	25
other methods .....	27
effectiveness .....	27
side effects .....	29
abortion .....	31
glossary .....	35
bibliography .....	37

## Introduction, second edition.

It has been said that the publication of this handbook necessarily implies a moral position.

This is true.

We see the handbook and contraception in general as playing a major role in the liberation of women. Once child-bearing becomes one option among many and woman has some power to control her destiny, she may well be less ready to accept subservience as an inevitable part of her condition.

The role of woman in society has been to maintain for man a retreat from the oppressive conditions of the modern industrial state. Thus woman, and her position in the family unit, act to stabilize the social order.

It is incumbent upon women to begin to liberate themselves, to seek and obtain a position of equality with men in the productive and social processes. The pill has the potential for making women free agents in this process.

However the role of contraception in the liberation of women has in no way been realized. Conception control does not necessarily create liberated women, at most it is a precondition for freedom. In Western capitalist states the pill has only served to increase the "value" of women as commodities — objectified human beings serving as non-intellectual sex objects.

The oppressed condition of women is the result of economic conditions. If women were to assume a position of equality with men in the labour force, as well as in other social processes, such as the family, the existing social order would have to be transformed. Therefore the liberation of women cannot occur except as a part of a fundamental social revolution, and that revolution cannot occur without the realization, by women, of their own human potential.

Little girl, of all the daughters,  
You were born a woman, not a slave.

— Laura Nyro

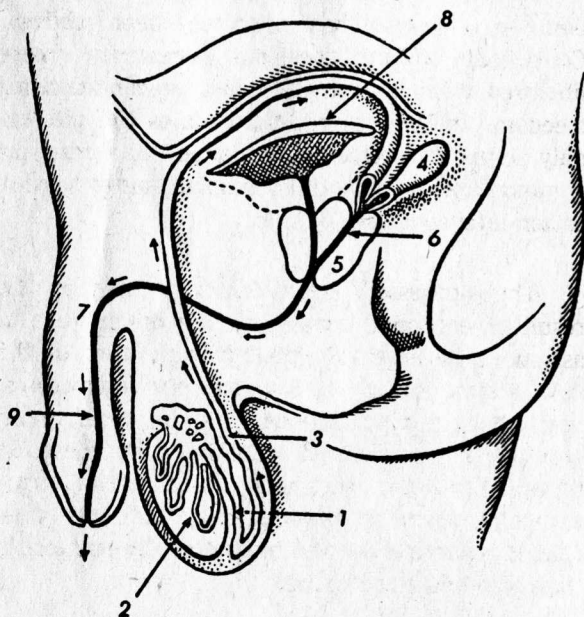
# anatomy

Understanding the anatomies of male and female reproductive systems facilitates comprehension of the various conception control methods. Basic physical structures are described in this section. In addition, the female menstrual cycle, and the various sexual hormones involved in that cycle will be described in the chapter following this one.

It is strongly suggested that these parts of the handbook be carefully read. For reference, and to simplify reading the book, an inclusive glossary is presented at the back.

## Anatomy of the male:

The male sexual parts shown in the diagram are: the penis, with its various glands and tissues; the double



The path of spermatozoa from the testis to the exterior. 1. Epididymis. 2. Semeniferous tubules of testis. 3. Vas deferens. 4. Seminal vesicles. 5. Ejaculatory duct. 6. Prostate gland. 7. Penis. 8. Urinary bladder, partly opened. 9. Urethra.

bag or scrotum, which normally carries the sperm cell-producing testicles; and the sperm-carrying ducts from the testicles in the scrotum to the penis. The penis itself can be distended with blood under mental or physical stimulus so that it becomes stiff or erect. The testicle or testis is a mass of long tubes in which the spermatozoa (sperm-cells) are produced. Sperm move into another network of tubes covering the side of testicle, called the epididymis and then are carried off in a long tube, the vas deferens, which takes an approximately 18 inch round-about course through the inside of the pelvis. The vas (tube) from each testicle broadens out into a seed reservoir, or ampulla, just before it reaches the penis. Opening off these reservoirs are seminal vesicles, large pouches on each side of the base of the penis. While in the vesicles, sperm cells are joined by a lubricating secretion. Other similar secretions are added to make up the final seminal fluid. Immediately at or shortly after sexual climax (called orgasm), the seminal fluid is forced from the seminal vesicles through small tubes that meet in the ejaculatory duct just before entering the base of the penis. The muscular contractions that take place at the base of the penis force the seminal fluid past the prostate gland where it picks up more secretions, through the urethral canal and out the meatus (opening at the tip of the penis). The whole process is called ejaculation. The prostate gland itself contracts and aids ejaculation. Entering the urinary canal just past the prostate are two openings of the glands which secrete mucus, lubricating the canal for easy movement of seminal fluid during ejaculation. The mucus also protects sperm from urine acid irritation. Some lubricating fluid escapes from the erected penis even before orgasm and ejaculation. This fluid, in addition to secretions from the female glands, permits easy intromission (entry of the penis into the vagina). This oozing during excitement is natural and beneficial; although some sperm cells may be carried along, oozing does not mean that semen is being "lost" nor does it indicate sexual weakness or venereal disease.

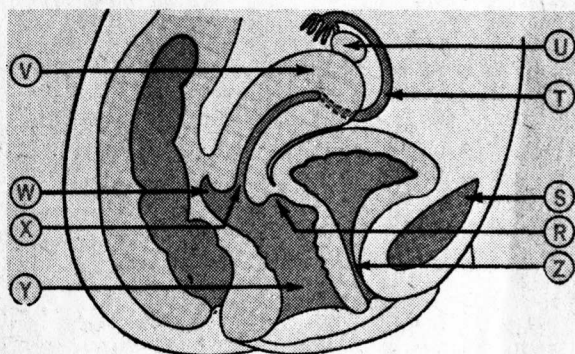
It is generally agreed that in the ejaculation during average sexual contact after 3 or 4 days abstinence, there are 250 to 500 million sperm cells. A sperm count of fewer than 60 million per cubic centimeter is often considered to be inadequate to induce pregnancy.



Sperm cells are capable of extremely rapid movement. This motility is accomplished by the movement of a whip-like "tail" connected to the genetic material-containing "head".

Different organs and structures of the two sexes develop out of the same basic structures, i.e. these organs are "homologous". The most obvious example of homologous sexual organs is the female clitoris and the male penis.

#### Anatomy of the female.



- |                     |                      |
|---------------------|----------------------|
| R — anterior fornix | V — uterus           |
| S — pubic bone      | W — posterior fornix |
| T — oviducts        | X — cervix           |
| U — ovary           | Y — vagina           |
| Z — urethra         |                      |

Vulva is the collective name for the external female sexual parts. The two outer "lips" of the vagina (called external labia) are included in the classification vulva.

The opening of the vagina varies in size depending on the individual, age and number of childbirths. Neither size of vaginal opening nor diameter of the vagina itself significantly increases with the amount of sexual contact.

The entrance to the vagina may be covered to some degree by the hymen, or "maidenhead", a membrane which differs in size, shape and strength with the individual. It may tear easily and painlessly at the first sexual contact (i.e. "loss of virginity") or it may prevent easy entry of the penis. Since the membrane does not completely block the passage to the uterus, pregnancy is theoretically possible without a rupture of the hymen. In many cases of sexual contact (especially in various forms of "petting"), the male ejaculates near or on the vulva without, in effect, entering the woman's vagina. It is possible that even though sexual intercourse does not occur, some sperm may swim through the fluid present on the outer lips of the vulva, into the vagina itself, and on through the cervix (opening to the uterus). Possibility of such an occurrence, however, is very slight. While fears of pregnancy resulting from ejaculation during petting are generally unfounded, ejaculation of semen on to the vulva should be avoided.

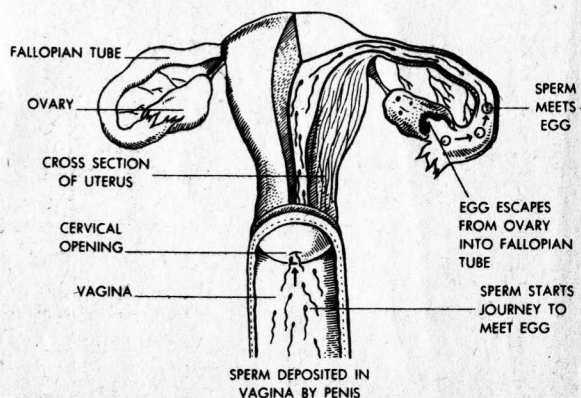
The vagina itself is the basic female organ of sexual intercourse, in that it receives the male organ and is the receptacle for sperm before they move toward the egg. Normally three to four inches long, the vagina is considerably elastic. It extends from the hymen past the cervix. It serves as the channel for the exit of tissues given off by the womb during menstruation, and as the last passage in childbirth. Vaginal tissue is lubricated by glands in the neck of the womb, and at the outside opening, by glands in the vulva. The inner end of the vagina, into which the cervix of the womb protrudes, receives semen and holds it in the seminal pool surrounding the opening of the womb.

The womb, or uterus, is the heavily muscled organ in which the foetus (future baby) develops. The specialized lining of the womb is called the endometrium. Ordinarily the uterus projects backward and upward from the vulva, i.e. the womb lies more or less horizontal with its mouth, or cervix, pointing backward and downward into the vagina. Shaped like a pear, the womb has, in its upper and larger part, openings to ducts called the fallopian tubes. The tubes are also called oviducts since they conduct ova (eggs) from the ovaries to the womb.

Ovaries are oval in shape, like small flattened eggs an inch and a half to two inches long. One ovary containing thousands of undeveloped ova, present since the woman's birth, lies on either side of the abdomen. Once a month one ovum is brought to maturity within the surrounding ovarian follicle and escapes from one of the ovaries. The fringed end of the fallopian tube which lies close to the ovary is believed to create a kind of suction or wave motion which wafts the egg into the tube and starts it on its path toward the womb. (Release of the egg will be considered more extensively in the section describing the menstrual cycle.)

Fertilization occurs in the fallopian tube. The fertilized egg moves to the side of the womb (uterine wall) where it implants itself for its nine month growth. If the egg is not fertilized it continues on its way and in about 14 days it is expelled with other substances in the menstrual flow.

Before describing the menstrual cycle, a short graphic explanation of conception follows obviously from the above anatomical descriptions:



# hormonal balances and the menstrual cycle

The endocrine system consists of various glands which release chemical substances called hormones into the blood stream. Because all hormones are interrelated, it is necessary to consider them in terms of hormonal balances rather than individual chemical substances. These hormonal balances significantly affect all body functions in fact, the endocrine system is considered a control mechanism for the entire body.

The menstrual cycle and the action of oral contraceptives cannot be understood without a basic comprehension of the hormonal balance affecting ovaries in the female.

The pituitary gland, located at the base of the brain, is the most important endocrine gland. The pituitary apparently regulates action of all other endocrine glands.

The gonads (sex glands) of both sexes are also considered endocrine glands. The ovaries which produce eggs release sex hormones called estrogen and progesterone. These hormones control the growth and development of the follicle, the area in the ovary where ova (eggs) are produced.

When the pituitary gland produces special hormones called pituitary gonadotropins, the ovaries are stimulated to produce estrogen and progesterone. However, when estrogen and progesterone are in the blood stream in sufficiently high concentration, production of gonadotropins (necessary for ovulation) is inhibited. Oral contraceptives maintain a high estrogen - progesterone level, thus inhibiting production of pituitary gonadotropins and therefore inhibiting ovulation. If an egg is not produced, pregnancy cannot result.

## Physiology of the menstrual cycle:

Growth of the ovarian follicle which produces the ovum (egg) is the initial event of every menstrual cycle. The follicle grows to maturity, and then ruptures, releasing the mature egg ready for fertilization. Ovulation, which is the rupture of the follicle and the release of the egg, usually occurs around the 14th day of the cycle. As the follicle develops (until the time of ovulation), it releases the sex hormone, estrogen. Once the egg is released, the ruptured follicle begins to form the corpus luteum which produces and releases estrogen and progesterone into the blood stream. Aside from suppressing production of pituitary gonadotropins, the hormones cause extensive development of the uterine lining (called the endometrium) preparing it to receive an embryo should an egg be fertilized. Since

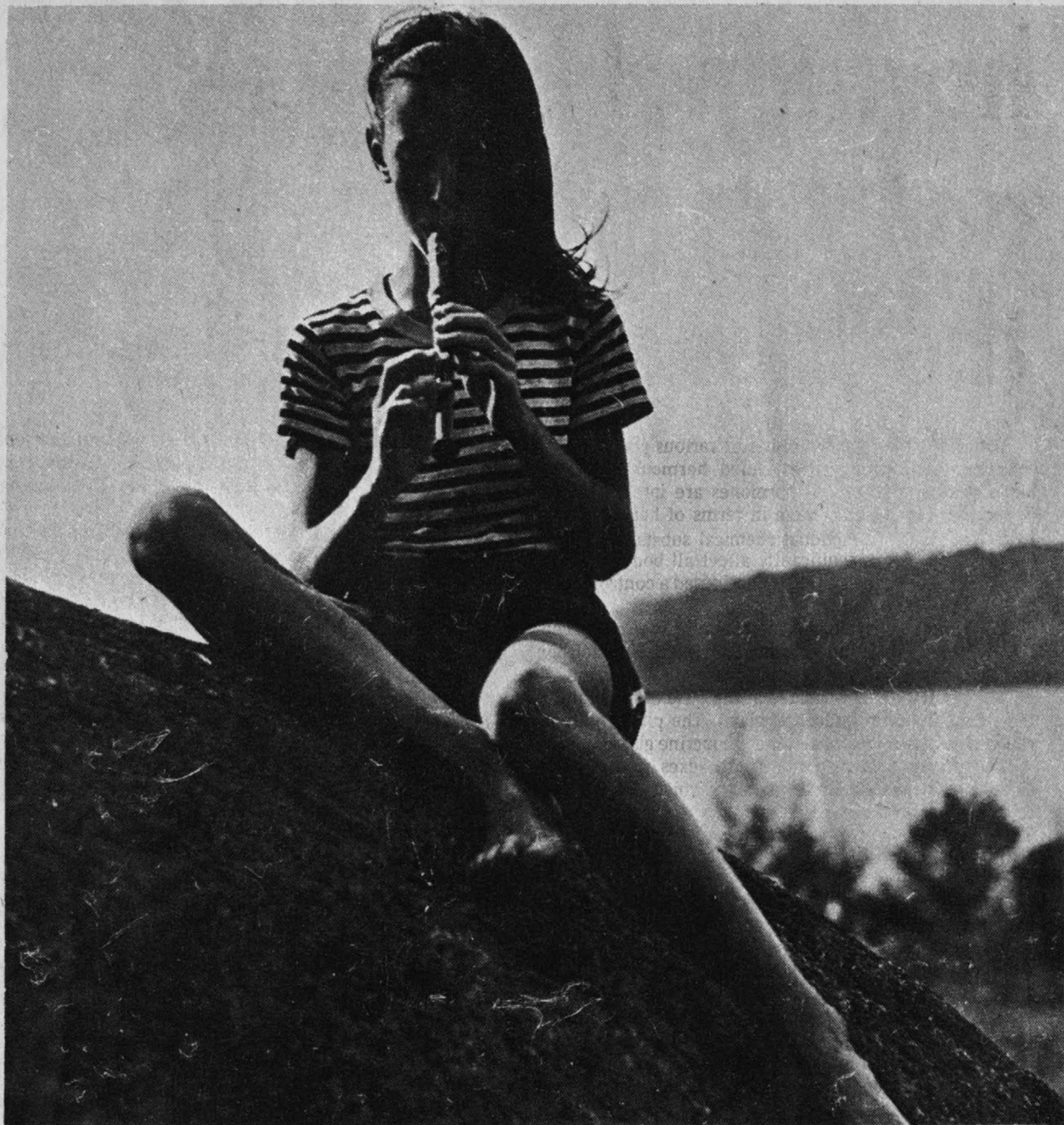
the hormones inhibit the pituitary gland, ovulation does not occur more than once in the same cycle. At the end of every cycle, the corpus luteum produced earlier degenerates and production of estrogen and progesterone stops. A decline in the levels of estrogen and progesterone in the blood stream follows immediately. This decline stimulates the pituitary gland, and the cycle begins again.

The endometrium, the specialized lining of the womb, simultaneously undergoes changes as the ovary is functioning. In order of occurrence, phases which the endometrium passes through during the menstrual cycle are: menstrual phase, proliferative phase, and secretory phase. The menstrual phase is the most easily defined, as for the 3 to 5 days of its normal duration the menstrual flow continues. When the menstrual flow ends, the uterus begins again to prepare for implantation of a fertilized egg, i.e. the endometrium "proliferates". Finally, once the endometrium is prepared for a fertilized egg, it goes into the secretory phase.

Both estrogen and progesterone are necessary to support endometrial development. However as the diagram below illustrates, estrogen is required to support both the proliferative and secretory phases whereas progesterone is required only to support the secretory phase. Also, note that estrogen is present during all 3 phases.

From the inspection of the varying levels of estrogen and progesterone, as shown in the above diagram, it is evident that just prior to menstruation (i.e. the menstrual flow), both estrogen and progesterone are at low levels and these levels are declining. Menstruation, or the sloughing off of endometrial tissues, is therefore the result of changes in estrogen - progesterone level. These changes occur at the end of the menstrual cycle, i.e. menstruation occurs as the result of a decline to low levels of both estrogen and progesterone.

The menstrual cycle lasts for 28 days. This figure is only an approximation as almost all women notice variations in duration of their cycles. Younger women (13 to 22 years old) tend to have menstrual cycles which are extremely variable in length. Also, when women of any age undergo emotional strain or shock (e.g. a family tragedy, prolonged guilt feelings, preparation for examinations, etc.) the menstrual cycle can easily be highly erratic. In a menstrual cycle which is longer or shorter than 28 days, duration of the endometrial phases is proportionally longer or shorter.



Three days before Thursday, maid's day off, they met in their special place, the bench beside the pond in the park. Lisa was shy but determined to be straight and honest as was her nature.

"I can't do it with you."

"Aren't your parents going away?"

"It's not that. Last night I got the Curse."

She touched his hand with pride.

"Oh."

"Don't be sad. We had a long talk. I told her about us, too. You see, I've got to act like a lady now. Girls have to act older than boys."

"Who's sad?"

She leaned back in the bench and took his hand.

"But aren't you happy for me!" — she laughed — "that I got the curse? I have it right now!"

Leonard Cohen  
The Favorite Game, pp. 28-29

# oral contraceptives

The birth control pill is the most effective and easily used method of conception control available to women.

The oral contraceptive pill contains synthetic chemical hormones which closely resemble the natural hormones (estrogen and progesterone) produced by the woman's ovaries. The major breakthrough in the search for synthetic progesterone came in 1951. Scientists worked with chemical compounds and synthesized a new progesterone-like compound which possessed ten times the strength of the natural hormone. Since then, numerous other compounds, all with similar biochemical nature, have been developed.

From 1951 to 1954 the hormones were tested extensively in animals. Clinical tests on humans followed in 1956 and 1960. In the past ten years several million women have been using the contraceptive pill.

## Action of the pill:

In the normally ovulating woman, after ovulation has occurred progesterone is produced by the ovaries and is carried by the blood to the pituitary gland. There it "instructs" the gland to halt further secretions of the hormones (called gonadotropins) which trigger ovulation: this is a control mechanism to prevent overlapping pregnancies. If ovulation were to occur more than once during a cycle, additional eggs could also be fertilized, thus leading to competition among several fertilized eggs for the mother's limited resources. Therefore, to protect the first egg released each month (in case it has become fertilized), progesterone prevents ovulation during the last half of the menstrual cycle. If the egg does become fertilized, there is a continued production of progesterone throughout pregnancy and therefore ovulation is suppressed until after birth.

The birth control pill produces a pseudopregnancy in the woman's body by establishing the correct hormonal balance, through use of synthetic hormones. In other words the contraceptive pill is duplicating the body's natural defence against pregnancy by inhibiting pituitary gonadotropins which are necessary for ovulation.

The "combination form" of the pill stimulates other reactions which add to contraceptive action. Combination oral contraceptives are responsible for thickening the mucus around the opening to the womb (the opening is called the cervix). In addition, combination pills produce reversible changes in the lining of the womb (called the endometrium) which prevents the egg from attaching it-

S	M	T	W	T	F	S
				●	●	●
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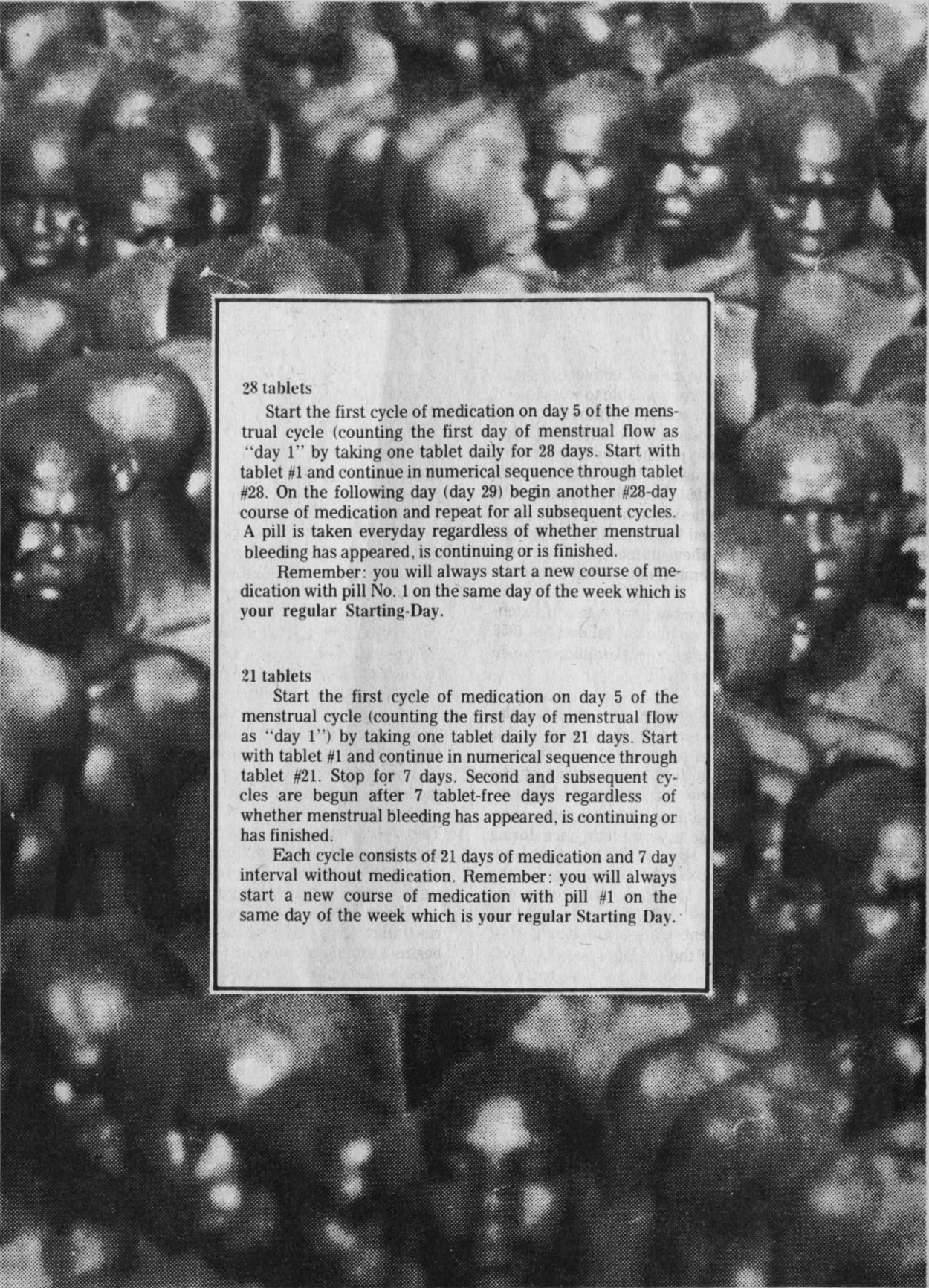
self to the wall of the womb, should an egg be produced and should a sperm succeed in fertilizing it. A description of the two different types of contraceptive pill (combination and sequential) is given later in this chapter.

If a woman is taking either combination or sequential oral contraceptives exactly as prescribed, there is no chance of pregnancy. Both types of oral contraceptives are considered more effective than any other contraceptive method.

The pills are usually taken for 21 (sometimes 20) days each month. Counting the first days of the menstrual period (menstrual flow) as "day 1", the first pill is taken on "day 5", whether or not the menstrual flow is continuing. One pill is taken daily thereafter for 20 more days. The pills are then discontinued and the new series begins after 7 days without medication. Some oral contraceptive programs involve taking a pill for 28 days, i.e. for the entire cycle despite the fact that the last 7 pills are made of inert substances and have no effect on the body. This 28 day program is generally easier for women to use as there is no need to chart the series of pills already taken. The woman simply finishes one box of pills and starts another without stopping for the 7 days.

When an oral contraceptive is taken for a 21 day period, starting on day 5 of the cycle, menstruation usually begins 3 to 5 days following the last pill (taken on day 25). This is also true, of course, for the 28 day series, for the last 7 pills contain nothing but inert substances. Such a schedule results in a menstrual cycle of approximately 28 days. This schedule of administration is the same for all women, regardless of their individual menstrual histories. Women who have had irregular cycles before taking the pill find that their cycles become more stable, and in many cases the period is short and light — a great advantage. Even so, at times menstruation does not occur within 3 to 5 days after the last pill was taken. This is not an indication of pregnancy. The new series of pills is started just as usual. However, if two consecutive menstrual periods are missed, a doctor should be consulted.

Since it is necessary to maintain a constant hormonal level in the woman's body, it is important to take the pill at close to the same time each day. Most women who use



### 28 tablets

Start the first cycle of medication on day 5 of the menstrual cycle (counting the first day of menstrual flow as "day 1") by taking one tablet daily for 28 days. Start with tablet #1 and continue in numerical sequence through tablet #28. On the following day (day 29) begin another #28-day course of medication and repeat for all subsequent cycles. A pill is taken everyday regardless of whether menstrual bleeding has appeared, is continuing or is finished.

Remember: you will always start a new course of medication with pill No. 1 on the same day of the week which is your regular Starting-Day.

### 21 tablets

Start the first cycle of medication on day 5 of the menstrual cycle (counting the first day of menstrual flow as "day 1") by taking one tablet daily for 21 days. Start with tablet #1 and continue in numerical sequence through tablet #21. Stop for 7 days. Second and subsequent cycles are begun after 7 tablet-free days regardless of whether menstrual bleeding has appeared, is continuing or has finished.

Each cycle consists of 21 days of medication and 7 day interval without medication. Remember: you will always start a new course of medication with pill #1 on the same day of the week which is your regular Starting Day.

oral contraceptives acquire the habit of taking the pill at the same time daily and of recording it. Many physicians suggest taking the pill after supper or before going to bed. Taking the pill on a full stomach seems to reduce the incidence of mild side effects such as nausea. Taking the pill at a certain time every day incorporates that action into the routine of that time of day (e.g. "going to bed" or "waking up"), thus minimizing the number of forgotten pills. Many drug companies package the pills accompanied by a chart, or insert the pills in special dispensers which indicate the number of pills already taken.

The effectiveness of the oral contraceptive program depends on adhering exactly to the prescribed regimen, i.e. even a single forgotten pill could result in pregnancy (although it rarely does). If one pill is forgotten it should be taken as soon as it is discovered and the next pill taken at the regular time, even if this means taking two pills in one day. If the sequential oral contraceptive program is being followed, another conception control method should be used for the rest of the cycle. With combination and sequential oral contraceptives, if a pill is forgotten for more than one day, another conception control method must be used in addition to the pill for the duration of the particular cycle. Should a number of pills be forgotten it is best to consult with the physician as a failure to maintain the series will disrupt the menstrual cycle for several months. It should also be noted that to forget a pill sometimes causes the appearance of certain minor side effects, such as breakthrough bleeding or spotting.

Some oral contraceptive programs include taking a different "pill" after the completion of the 21 day series (these programs are the 28 day series, which have already been mentioned). The different tablets, usually colour-coded, are made of inert chemicals which have no effect on the body. The 28 day series should not be confused with the sequential form of oral contraception which is described in the next section of this chapter. Many doctors strongly favour the 28 day program for two reasons: women do not forget the pill as frequently since the regimen calls for a pill on every single day; the individual woman is not totally responsible for keeping track of her series of pills. She finishes one box of pills and begins another. Similarly, doctors prefer the 21 day series over the 20 day series. Again the reason lies in application. It has been found that women more readily remember and use "3 weeks on, 1 week off" than "20 days on, 8 days off". Drug companies have been slow in retooling their machinery to accommodate for these findings.

If an active oral contraceptive pill (i.e. not a pill made up of inert chemicals) is taken every day, without the "7 days off", the lining of the uterus does not undergo the periodic sloughing that otherwise normally occurs (recognized as the menstrual flow). The ovaries, of course, do not produce any new eggs. The problem that would arise, however, is an increase in breakthrough bleeding. In other words, there would be an irregular pattern of breakthrough bleeding but no menstrual flow. Since this situation is not desirable, menstruation is allowed to occur once a month (i.e. once in the 28 day cycle) by stopping the pills towards the end of the cycle (on day 25) or by taking "candy pills" for the duration of the cycle. Menstrual flow occurs as a result of the decline in levels of estrogen and progesterone (natural hormones produced by the ovaries) at the end of each cycle. Therefore, dis-

continuation of the estrogen-progestational steroid combination provided by active contraceptive pills results in menstruation. It is possible for a woman who is taking birth control pills to delay her menstrual flow by taking more than 21 potent pills in a particular cycle. Such action must not be taken without medical consultation.

The different kinds of oral contraceptives — the combination and the sequential pill:

There are two types of oral contraceptives: the "combined pill" and the "sequential pill". Both are made up of hormones, however combined pills have both estrogen and progesterone in the same pill while sequential pills contain estrogen for the first 14 pills and an estrogen-progesterone combination for the last 7 pills. Sequential pills are colour coded according to which hormone or hormones they contain.

Since estrogen is normally secreted by the woman's ovaries during the entire menstrual cycle and progesterone is normally secreted only during the latter portion of the menstrual cycle, the sequential method more nearly simulates the natural female hormonal sequence. This is often an important clinical consideration.

Recent medical studies have shown some connection between the synthetic estrogens and various blood clotting diseases. Oral contraceptives which do not include estrogens are being developed. The duration of estrogen administration is the same for both combination and sequential pills; however, it should be remembered that each combination pill contains only a minute amount of estrogen, the rest of the pill being made of progesterone.

Either estrogen or progesterone alone can prevent ovulation, since either hormone can inhibit the pituitary gland from sending its own hormonal message to the ovaries, thus triggering development of an egg.

Inclusion of the progestational steroid in oral contraceptives (either the combination or the sequential series) reduces the possibility of breakthrough bleeding. The predictability that a normal menstruation will follow within a few days of the last pill in a particular sequential series is increased, however the incidence of breakthrough bleeding is also slightly increased.

Administration of the pill, whether combination or sequential, is the same. The only variations (for example, the number of days that a pill is taken in series) are stipulated by particular manufacturers.

Whichever oral contraceptive method is used, failure to follow the prescribed regimen may result in pregnancy. However, to forget a single pill is more likely to result in ovulation (and therefore possibly pregnancy) with the sequential method than with the combination method, especially if a tablet is missed on days 8 to 12. A slightly higher rate of failure has been attributed to the sequential pill; this is a result of the "individual-error factor". In other words, it is not the method that is at fault, it is the individual (i.e. by forgetting a pill). However, the sequential method is also reported to be slightly less effective than the combination method, even if the regimen is rigidly followed. This is probably because the combination pill stimulates secondary effects (thickening of the cervical mucus and changes in the endometrium which the sequential pill does not induce).

**Beginning and duration of protection:**

It is generally agreed that a woman is protected against pregnancy upon taking the first pill in an oral con-

traceptive program. This is based on the fact that ovulation occurring before the pills take effect is highly unlikely to occur in women with a fairly regular menstrual history. However, ovulation is more likely to occur in women with a history of short cycles. In such cases in which early ovulation might be considered possible, additional precautions during the first cycle might be in order. This decision should be left to the doctor. Some doctors will suggest that during the first cycle of the oral contraceptive program pill taking should begin on the first or second day instead of the fifth day after the menstrual flow has begun. Other doctors will advise either that no other method need be used during the first cycle or that some definite method (such as the condom, spermicidal preparations etc.) should be used.

The pill also eliminates the possibility of pregnancy during the period of time after the last pill of the month is taken, since an egg has been prevented from forming. In short, as long as a woman follows the oral contraceptive program exactly, pregnancy will not result from coitus occurring at any time in the cycle.

#### Examination, prescription and cost:

A doctor's prescription is legally required in order to buy birth control pills. This insures that the medical examination that is necessary before an oral contraceptive program is initiated, has been conducted. To use another woman's prescription is dangerous.

Cost of the original medical examination varies considerably. The cheapest, easiest, and often the best plan is to go to a hospital or family planning clinic. A medical history is taken by the doctor with particular attention being given to any diseases of the blood or various organs which the woman may have had or does have. A physical examination follows. Cost of this examination, last year, at the Royal Victoria Hospital Birth Control Clinic, for registered McGill and Sir George students, was \$1.50. Cost

may change this year. A student card is needed to confirm age (18 years) and registration at McGill or Sir George.

A similar clinic is maintained by the Montreal General Hospital.

Cost of the prescription also varies. Suggested retail price for a month's supply of the pill is between \$2.10 and \$2.50. A month's supply of birth control pills is generally obtainable for as low as \$1.00 at hospitals where birth control clinics are located. The Family Planning Association of Montreal (933-8347) also provides pills at lower than drug store cost. The Quebec Prescription Center Pharmacy sells all contraceptive medications at cost price plus \$1.00 professional charge on presentation of a doctor's prescription (when required).

Several pharmaceutical companies produce birth control pills which are marketed under the following brand names:

#### Combination form

Brand Name	Pharmaceutical company
Norlestrin	Parke Davis
Gestet	Squibb
Anovlar	Schering
Provest	Upjohn
Orthonovum	Ortho
Norinyl	Syntex
Norinyl-1	Syntex
Enovid-10	Searle
Enovid-E	Searle
Ovulen	Searle
Lyndiol	Organon

#### Sequential Form

Brand Name	Pharmaceutical company
Oracon	Meade-Johnson
Secrovin	British Drug House
Orthonovum SQ	Ortho
C Quens	Lilly



# condom

The condom, a sheath or cover for the penis worn during coitus, is the mechanical contraceptive most widely used throughout the world. Other names commonly used for the condom are : prophylactic, "rubber", "safe", "French letter"; condoms are also often identified by brand names: Ramses, Fourex, Trojan, etc...

The condom, being a contraceptive used by the male partner, has often been downplayed. The traditional approach of the birth control movement has been that the woman, rather than the man, should be primarily responsible for conception control. Due to many factors, (for example the often sporadic nature of sexual contacts), responsibility often falls completely on the male partner.

The condom, as a contraceptive device, should therefore be carefully considered.

Historical association of the condom with prostitution and prevention of venereal disease has resulted in a reluctance to accept use of the method. In addition, there exists a widespread impression that, compared with other methods of contraception, the condom is unreliable. This belief is not supported by fact; on the contrary, the condom is easily as effective as diaphragm and jelly, (see chapter on effectiveness of methods).

The majority of condoms manufactured and sold today are made of rubber. They are cylindrical and come rolled into small rings. They are unrolled over the penis



once erection has been achieved due to sexual foreplay. The condom prevents introduction of sperm into the vagina by providing a mechanical barrier between the penis and the vagina. Since sperm cannot reach the egg, pregnancy is prevented.

Materials from which condoms are made are selected for such properties as elasticity, strength and thinness. Two such materials used are latex rubber and processed collagenous tissue (frequently obtained from lamb caecum). The condom may be plain-ended or tipped with a teat or pocket at the closed end to receive and hold the semen. Average thickness of well-made rubber condoms is approximately 0.0025 in. (0.05 mm) and may be somewhat thicker at the tip and thinner at the open end of the sheath. There are no "sizes" for condoms, since they are considerably elastic.

"Skin" condoms, produced from the caecum of sheep and other animals, first appeared in England during the eighteenth century. In this century they were replaced largely by cheaper and equally effective rubber sheaths. The principle advantage of skin condoms is that animal membrane is a better conductor of heat than a film of rubber, and, therefore interferes less with sexual enjoyment. The major inconvenience of skin condoms, the necessity of wetting the dry membrane before use, has been overcome by packaging in a capsule (usually aluminum foil) containing water, glycerine and a preservative.

The most recent process developed and used in the manufacture of rubber condoms is the latex process. This highly automated production enables domestic sales in the United States of approximately 600 million condoms every year. Rubber condoms are ordinarily distributed rolled and ready for use, packaged in paper envelopes, cardboard boxes, or metal containers. Some are individually sealed between strips of aluminum foil, either dry or with a small amount of lubrication jelly applied to the outer side of the tip. An important recent innovation is production of lubricated rubber prophylactics which are much cheaper than skin condoms. The advantages of lubricated condoms, rubber or animal membrane, are described later in this chapter.

The woman who, because of previous psychological conditioning, dislikes handling herself, or who prefers to have the male partner take responsibility for contraception, may find the condom a congenial method; so may the man for whom it is psychologically important to remain in full control of procreation. Some couples use the condom for intercourse during menstruation, although depending on other conception control methods at other times. Many prefer the condom because of assurance of successful protection given by evidence immediately after intercourse.

Because the mechanical principle of the condom can be understood by everyone, including persons with little or no education, the device offers fewer opportunities for incorrect use than any other contraceptive device. The low incidence of "individual failure" is significant in considering the effectiveness of this method. (See effectiveness of methods).

Some men and women complain of discomfort or local irritation, or both, associated with use of condoms. These conditions, usually caused by lack of lubrication, are easily corrected by use of lubricated condoms. An allergic reaction to rubber is rare.

More commonly, some men and women object to the condom because it dulls sexual sensation to some extent. It is reported, however, that a significant loss of sensation does not necessarily accompany the method especially when skin condoms are used. On the other hand, some men, especially those who ejaculate too soon during coitus, prefer condoms because sexual sensation is slightly less intense and climax is not achieved until after a longer time, thus prolonging the sexual act and helping to time orgasm simultaneously with the female partner.

Because the condom must be applied during foreplay and before intromission, many couples object to the interruption. Other couples incorporate the act as part of foreplay, thus preventing coitus from occurring while the condom is not being worn.

#### Use:

The condom should be worn throughout coitus since pregnancy may result from early or premature ejaculation. In other words, there should be no intromission when the condom is not being worn. The sheath itself is unrolled over the penis. In this process, it is very important that the foreskin (in uncircumcised males) be completely retracted. If the sheath is plain ended, space should be left to receive ejaculated semen: Use of a teat-ended condom obviates need for extra space, but the pocket should be compressed to expel air while the condom is being put on. While unrolling the condom, care must be taken not to tear it with finger nails, rings, or any rough object. Furthermore, the male partner must avoid catching the tip of the condom on the outside of the vagina when inserting his penis. It is possible to thrust a hole through the side of the condom if the tip of the sheath should become caught.

Following male orgasm and ejaculation, there is often a partial or complete loss of erection. The upper open end of the condom is therefore no longer pressed tight against the penis. Semen may then leak out of the open end of the condom or the condom may slip off while the penis is still in the vagina. The male partner should hold the upper part of the condom tight against his penis when retracting from the vagina. Also, to prevent leakage of semen through the open end of the condom (the semen then being able to flow down the side of the penis and into the vagina), the penis should be removed very soon after orgasm if erection is subsiding. Should the condom slip off during coitus, the open end should be grasped and the condom removed from the vagina with care to lose none of the contents. If semen escapes into the vagina there is actually nothing that can be done. Some authorities suggest douching; however, (as explained in the chapter on "other methods") such action may actually force the sperm further into the reproductive tract. Proper use of the condom is therefore extremely important.

Sometimes there is a lack of sufficient moisture in the vagina to allow for easy entry of the penis, especially if it is covered by a dry rubber condom. Some couples engage in sexual foreplay, (especially clitoral manipulation) until the woman reaches orgasm, in order to overcome this disadvantage. Most commonly, an artificial lubricant or a prelubricated condom is used. A spermicidal preparation is by far the best lubricant to use; other non-greasy jellies or creams are sometimes applied. Vaseline

or any kind of petroleum jelly or oil should never be applied to the condom because contact with fatty substances causes rubber to deteriorate. Unless a prelubricated condom is used, the lubricant is applied to the outside of the sheath after it has been unrolled on the penis, or (for certain spermicidal preparations) injected into the vagina by means of an applicator. Some authorities question whether it is advisable to place a small amount of spermicidal preparation inside the tip of the condom, as well as on the outside. Although this practice may be useful in cases in which use of the condom results in excessive blunting of sexual sensation, it may also cause the sheath to slip off during coital movements.

Some clinicians insist that the condom always be used in "combination" with a chemical contraceptive such as a vaginal jelly or cream or other spermicidal preparations. There can be no doubt that this precaution reduces significantly the chances of conception in the event that the condom breaks or slips off. Brands of condoms bought from either pharmaceutical companies or drug stores (those sold at bars, at gas stations, or from peddlars are very likely to be of inferior quality), can be assumed to be reliable and may be used without additional protection of spermicidal preparations. In addition, precautions can easily be taken to prevent the condom from slipping off the penis into the vagina. In any case, there is no possibility that the condom could get "lost" within the vagina.

Unless they cause tearing of the condom, "pinholes" are probably not a common cause of contraceptive failure, because the amount of semen escaping from a small hole in the condom would, in most cases, not be sufficient to induce conception.

Some clinicians also recommend that all condoms be tested before coitus. Inflation is the method of testing

most frequently recommended. After testing, the condom must be rerolled to facilitate application at time of use. Considering current practices and quality control of reliable condom manufacturers, such testing by the consumer will probably do more harm than good. With such condoms the proportion of defective units is so small that the number of sheaths damaged by unskillful handling during testing will probably be greater than the number of defects discovered.

There is no apparent reason that a condom of good quality should not be used several times. It is equally clear, however, that the necessity of washing, drying, testing, dusting with talcum powder, and rerolling may constitute a psychological obstacle to its ready acceptance and consistent use as a method of contraception.

Cost:

Condoms can be bought from a drug store without a prescription. The most common retail price for a good brand is about 3 for \$1.25 although the price varies considerably, especially with lubricated and skin condoms.

It is common practice to keep a condom in a wallet or pocket until it is needed. This is a serious mistake. The combination of moisture and heat provided by contact with the body leads to deterioration of the condom. The sheath should never be kept in a wallet or pocket for any length of time; it is best to leave condoms in the small cardboard containers in which they are usually sold. Kept this way, without excessive heat or moisture, condoms can be stored for several months.

"Tip" condoms, or condom caps, which fit only around the glans of the penis should never be used, since they are likely to slip off after orgasm.

# intrauterine devices

The discovery by Grafenberg, over 30 years ago, of a contraceptive effect resulting from intrauterine ("within the uterus or womb") placement of an indwelling ring has only recently been accorded the consideration it merits. While this method of conception control is still considered by many doctors to be only within the "experimental" stage intrauterine devices (IUD's, intrauterine contraceptive devices, IUCD's, or "Grafenberg Rings") are widely used all over the world.

## Description

There are various basic forms of intrauterine devices: the coil, the bow and the loop are variations whose names imply their physical structure. Only the bow is wholly contained within the womb. Both the coil and the loop have an extension, called the cervical appendage, which protrudes from the cervix (opening to the uterus). The cervical appendage makes self-examination for continued presence relatively easy and simplifies removal of the device.

The coil, bow and loop are seen in the diagram, in place in the womb.

There is considerable variation in IUD configuration made of the new plastics. These materials have the advantage of being nonreactive with internal body tissue and of being relatively flexible. The malleability of plastic IUDs is regulated so that the device can be threaded into a curvilinear, small bore introducer to permit painless insertion into the uterus. Malleability of plastic allows great latitude in configurational designs and may prove very useful in

evolving and perfecting the "ideal" design. It also permits accurate positioning of the broad flat plane of the device in the corresponding plane of the womb.

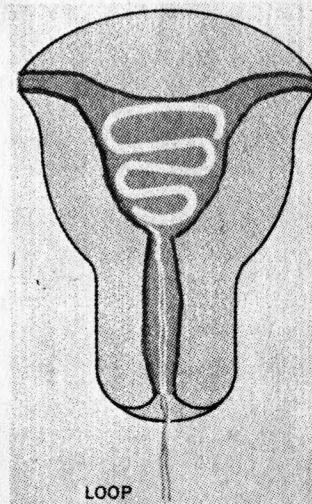
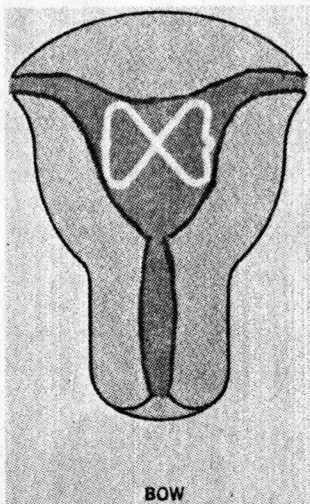
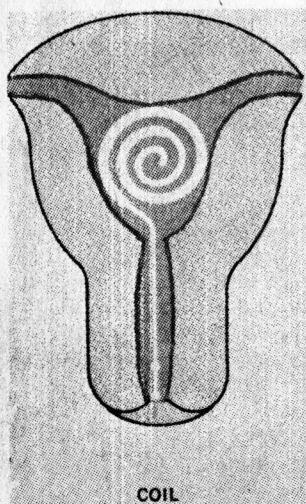
Intrauterine devices are available in at least two different sizes. The size of an IUD prescribed for a woman depends of the size of her uterine cavity (as measured by a doctor using a uterine probe).

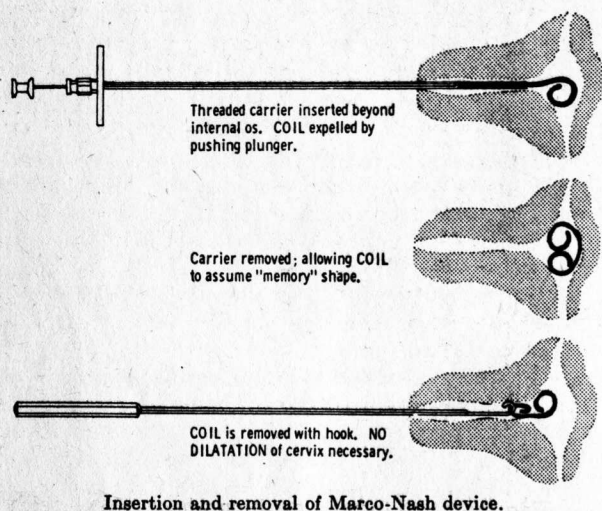
## Insertion of the device

Introduction of the IUD is done by a doctor in his office or in a hospital clinic. An anesthetic is not needed since the pain or discomfort is usually no greater than cramps from the menstrual period. Doctors find, however, that insertion is more difficult and causes more pain to younger women who have not yet had children.

The device itself is threaded into an "introducer" and is thereby straightened out prior to insertion. The introducer is then inserted past the vagina and into the uterus. The IUD is subsequently expelled by pushing the plunger. The device then resumes its original shape.

The IUD begins to function as a contraceptive device as soon as it is inserted. Sexual intercourse is delayed for a few days if cramps or spotting occur. Most women notice that after insertion of the IUD, their periods are heavier and last longer. Either pads or tampons can be used during the menstrual periods just as before insertion of the device. Some women experience breakthrough bleeding or spotting as well; these side effects usually disappear after a few cycles. (see chapter on side effects.)





During coitus, neither male nor female partner can feel the presence of the IUD.

A woman who engages in coitus regularly might unknowingly be pregnant from the time of ovulation to the time of her next expected menstruation. When an intrauterine device is placed in a uterus with an undetected pregnancy there is an immediate danger of sepsis (serious blood poisoning) and septic abortion. Because very early pregnancy is usually undetectable, the introduction of the IUD is always delayed until the last stages of menstruation, when, in any case, insertion is physically easiest.

For effective conception control it is necessary that the intrauterine device remains exactly as positioned. Since the womb sometimes spontaneously expels the device, it is important that women check the position of the IUD at least once a week and after each menstrual period. Self-examination is made easier by the cervical appendages connected to some IUDs. Self-examination is explained in detail by the doctor; the process varies with particular configurations although it usually involves noting the presence of the cervical appendage.

Some women tend repeatedly to eject IUDs from their wombs. For these women the IUD is an impractical contraceptive method.

While the IUD is being used, a medical examination is necessary at least once a year. IUDs have been left in place for two years or more with no adverse reactions and with effective contraception. (See chapter on side effects).

Normal fertility is restored once the IUD is removed by a doctor.

#### Action of the IUD:

Considerable amount of research has been done on IUDs in the relatively short time they have been distributed for large scale tests. The action of the device is explained by various theories, many of which evoke endometrial modes of action, i.e. IUDs act to change the lining of the womb (endometrium) in such a way that even if an egg does become fertilized it cannot implant itself in the endometrium and start growing. Other doctors think that even if a fertilized egg is present in the womb, it is moving through so quickly that it cannot implant (implantation process is called nidation). In short, it is argued that the presence of the IUD does not prevent formation of an egg which may become fertilized if coitus occurs at the right time. It is hypothesized that the prevention of nidation is the only action being instigated. Such an action is in fact abortion and not contraception, since a fertilized egg is being destroyed.

On the other hand, there are many scientists who maintain that when the IUD is in place, fertilization cannot occur, and therefore the IUD is actually a contraceptive device. There is considerable evidence to support this view. Repeated observations of endometriums of plastic and stainless steel IUD users consistently fail to reveal any trace of changes which would prevent nidation. Furthermore, it has been observed several times that insertion of the IUD even a few hours after unsuspected fertilization or nidation has not disturbed the pregnancy. It seems possible that a contraceptive effect of the intrauterine coil or ring may result from alteration in the delicate balance which normally prevails between the various uterine systems. It is hypothesized that such unbalancing may lead to failure in the timing of gametic (sperm and egg cells) transport, thus preventing fertilization, and, of course, pregnancy.

According to preliminary critical appraisal, IUDs have been revealed as extremely effective devices. The various rings, coils, and spirals currently under investigation are producing contraceptive results almost equal to those produced by oral contraceptives. The method's potential appeal stems from the following factors:

1. The couple is unaware of presence of the device.
2. They do not ever have to intrude a repetitive contraceptive action into their sexual life.
3. They do not have to buy or remember to keep contraceptive supplies on hand. The IUD is obviously the cheapest contraceptive method.

Because this method of conception control is so promising it is under intensive study. Many physicians, however, are concerned with the possible abortive action of the device and think that more extensive studies should be made and results evaluated before advising general use.

The Royal Victoria Hospital does not prescribe intrauterine devices.

# diaphragm and jelly

The widely used combination of diaphragm and spermicidal preparation is one of the oldest conception control methods. This method provides a high protection rate for women who have access to good physicians or to clinics adequately equipped and staffed.

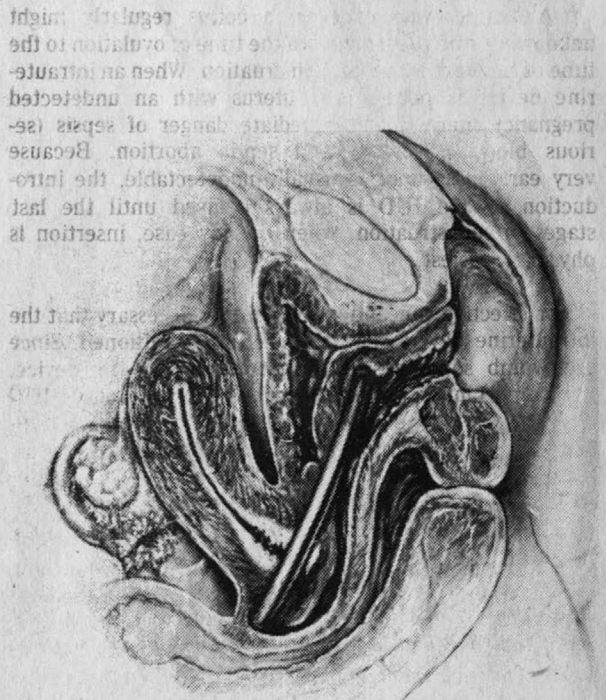
## Action of the diaphragm and jelly

The round cup-like diaphragm, holding a sperm-killing chemical on its surface, provides a mechanical barrier to sperm swimming toward the cervix (uterine opening). The spermicidal preparation is commonly put within the dome of the cup so that when the diaphragm is inserted into the vagina, it keeps the preparation in contact with the uterine opening. The chemical kills any sperm which may pass the rim. The rim itself is not coated with the preparation.

## Description

There are several shapes and constructions of diaphragms. The earliest form is the round rubber dome with a flat or circular spring rim. More recently developed and more flexibly adaptive to the shape of the vagina are crescent shaped diaphragms which spring into close contact with tissue around the cervix. The springs of some diaphragms are made of flexible steel; others of highly tensile coil. Diaphragms are inserted: 1. by hand, 2. by separate metal or plastic inserters, 3. or by built-in inserters. Many doctors seriously question effectiveness of the rubber diaphragm itself as a mechanical barrier to sperm. It is claimed that the diaphragm serves a contraceptive purpose only by providing a platform for spermicidal preparation. Whether or not such arguments are valid, the diaphragm is still fitted as a mechanical barrier for the cervix. A doctor must do this; however, the process is relatively simple and painless. Women with intact hymens can also be fitted.

The diaphragm forms a partition whose edges stretch the elastic vaginal walls so that the penis cannot pass between the front edge of the device and the wall of the vagina. The diaphragm nests behind the pubic bone, covers the cervix and rises behind it into a small pocket called the posterior fornix. In this way, the rubber

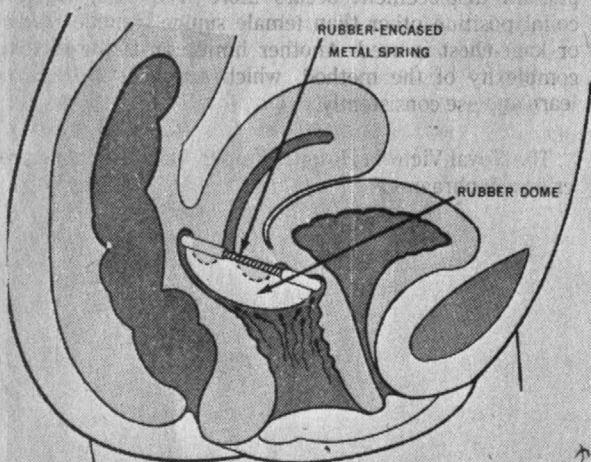


diag. 1  
Correct placing with rim behind cervix and caught under pubic bone.

dome "fits" into the natural pockets of the vagina (see chapter on female anatomy) and during coitus it hugs the anterior or upper vaginal wall, effectively shielding the cervical opening. Diagram 1 shows correct positioning of the diaphragm, the more schematic diagram 2 illustrates its contraceptive action, and diagram 3 shows the diaphragm pressed up against the vaginal wall during coitus, with the vagina stretched by the penis. As shown in diagram 4, it is extremely important that the glans of the penis cannot get under the front rim of the rubber dome as this would cause displacement of the diaphragm and exposure of the cervix.

#### Fitting of the diaphragm and medical instruction:

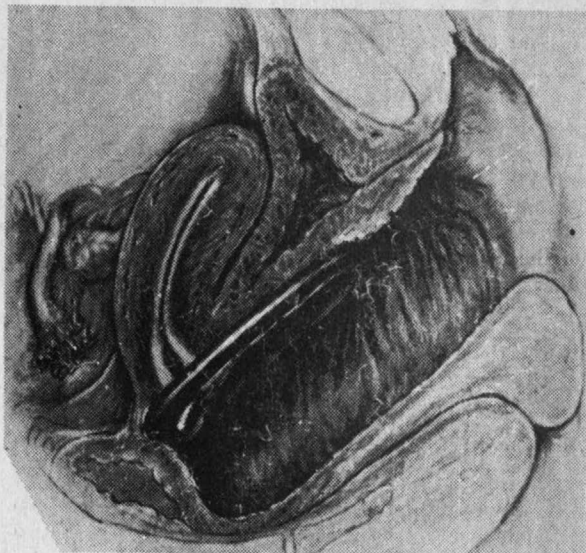
A medical prescription is legally required to buy a diaphragm. This supposedly insures, among other things, that women are properly instructed in the use of this contraceptive device and that medical histories do not indicate any dangers.



diag. 2.

When the diaphragm is being used for contraception, a teaspoonful of spermicidal jelly or cream is placed into the cup of the dome. The spermicidal preparation is also spread evenly on the outside of the dome but not on the rim as presence of the chemical on the rim may cause the diaphragm to slip. The device is then taken in one hand and its sides squeezed into a long narrow figure eight. The fingers of the other hand draw open the outer lips of the vulva and the compressed circle is pushed in, keeping the jelly or cream side facing up. A finger is used to guide the further rim past the cervix. When first pushed almost completely in, the far rim may hit the front of the cervix. Next, the index and middle fingers press the front rim up behind the bony arch in front. Lastly, the woman verifies that the cervix is safely covered by the rubber dome. Any difficulty may be due to lumps in the lower bowel or to a full bladder.

The diaphragm is best inserted while the woman is standing with one foot on a low stool, sitting on the edge of a chair, or squatting to give the most ready reach high up the passage. With stoutness, short fingers, or long vagina, the squatting position may be best.



diag. 3  
Vagina during coitus, showing adequate protection.

The diaphragm can be used either dome downward or dome upward. The latter position gives a somewhat closer fit of the flexible rubber dome to the projecting cervix. Trial will demonstrate which better suits the individual anatomy.

If an accurately fitted diaphragm has been properly inserted, it cannot be felt by either sexual partner.

Mechanical directors or inserters are sometimes prescribed. Most forms carry notches or buttons to hold the diaphragm temporarily. The director imposes an oval form on the diaphragm which renders passage into the vagina easier in some cases. It is also useful when the uterus does not lie in the usual position and in cases of women reluctant to insert a finger into the vagina. Obesity and shortness of fingers may also call for this aid. The instrument is usually prescribed only in the above special circumstances.

This method of contraception is unsuitable where:

1. Variations in individual anatomy prevent fitting. Such variations are: a much damaged pelvic floor, relaxation of vaginal walls such that pocketing of the front rim of the diaphragm is prevented, or severe variation in position of the uterus (and therefore of the cervix) or other adjacent organs.

2. There are psychological obstacles such as conditioned fear to, or disgust at touching the genital area.

3. The woman is incapable of learning method.

4. A lack of adequately trained physicians exists.

#### Use of method:

The diaphragm should not be inserted more than 2 hours before coitus. Also, since it takes up to 6 hours for the spermicidal preparation on the rubber dome to destroy sperm, the diaphragm must not be removed until six hours after the last ejaculation. The diaphragm may be left in place for as long as 16 hours after which it should be removed and washed with soap and water. One application of spermicidal jelly or cream on the surface of the diaphragm affords protection for only one coitus. A syringe-like applicator is used to inject more of the

preparation before each coitus. A douche must not be taken within the 6 hour period after the last ejaculation even if the diaphragm is left in place. Douching dilutes the spermicidal preparation and significantly reduces the method's effectiveness.

As with oral contraceptives and IUD's, the diaphragm is prescribed and used on a strictly individual basis. Furthermore, refitting may be necessary in the following circumstances: after several months if the original

fitting was before or shortly after loss of virginity; after birth of a baby; after a miscarriage; after an operation; or after the gain or loss of more than ten pounds. A check-up at least once every two years is necessary and more frequent examinations are usually required in the first few months of use.

The diaphragm and jelly method is limited in that dislodgement of the device can occur during coitus as a result of frequent insertions of the penis or as a result of expansion of the vaginal canal during female orgasm. Recent work on female sexual response by Masters and Johnson clearly indicates limitations inherent in the diaphragm method when the female partner has already reached orgasm. Masters and Johnson state that diaphragm displacement occurs more frequently when a coital position other than female supine (female below) or knee-chest is used. Another limitation is the relative complexity of the method, which makes it difficult to learn and use consistently.

The Royal Victoria Hospital Family Planning Clinic prescribes diaphragms.



diag. 4  
"Front rim" test of fit. If finger cannot get by  
neither can penis.

# vaginal spermicidal contraceptives

The use of diaphragm and jelly as a contraceptive technique was so solidly entrenched in physician-prescribed contraception that it took many years before serious attempts were made to determine whether the diaphragm itself was actually essential for preventing conception. Most importantly, the necessity for the type of barrier provided by the diaphragm was questioned, and in the period immediately after 1950, advocates of certain new preparations were confident that effective barrier action at the cervix (opening to the uterus) could be produced by spermicidal (sperm-killing) substances alone (without insertion of the diaphragm). This belief has since been proven correct and within recent years the use of spermicidal preparations themselves, without a diaphragm, has become an accepted method of conception control.

Obviously, any product to be used without the diaphragm, must not only possess high ability to inactivate and kill spermatozoa (sperm cells), but must also spread readily and form a surface film of reasonable durability during coital activity and movements. All spermicidal preparations presently available consist of two components: a spermicidal chemical, usually a complex analogue of ethanol (which serves to kill the sperm) and a non-reactive base. The base, which makes up the bulk of the preparation, serves to mechanically block the cervix.

This chapter will consider the various forms of vaginal contraceptives. Included in this group of contraceptives are: jels, creams, aerosol foams, foam tablets, suppositories. Although all possess basic similarities, they vary sufficiently to warrant individual consideration.

Many couples do not like any of the vaginal contraceptives for a variety of reasons. For one, use of a vaginal contraceptive must precede or interrupt sexual foreplay. Pregnancy is often the result of coitus starting before the contraceptive agent has been applied, because some women do not like to feel responsible for causing an interruption. Most objections are aesthetic ones.

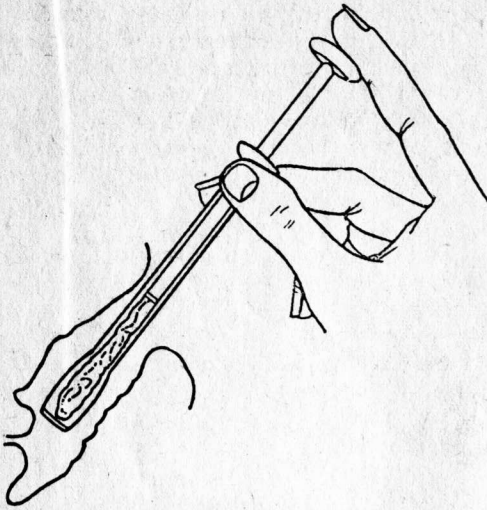
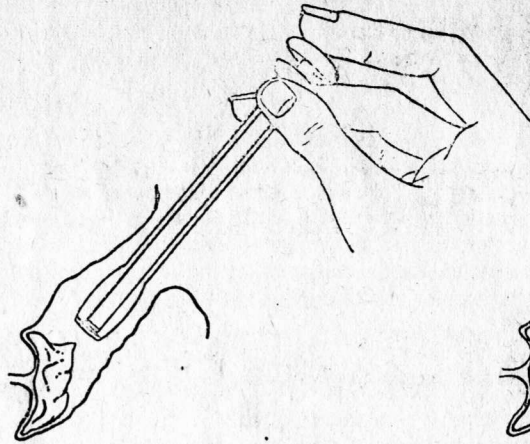
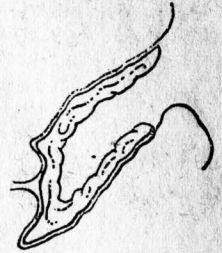
The factors that make a spermicidal preparation less effective during coitus are subject to varying degrees of control by the user. Dilution of the preparation by vaginal secretions and leakage during and after coitus can be corrected by ensuring that enough of the agent is present initially and that the agent is reapplied following each act of sexual intercourse. However, incomplete distribution of the agent (within the vagina), during coitus, frequently cannot be corrected by further applications.

Depending on the particular spermicidal preparation being used, a douche may or may not be desired. If a douche is desired, it must be postponed for at least 6 hours following coitus since it dilutes or removes the spermicidal preparation without effectively removing any remaining viable sperm (see section on "other methods"). Sperm can survive for a certain period of time even if a spermicidal preparation is present in the vagina, therefore the contraceptive agent must be given sufficient time (i.e. 6 hours) to carry out its spermatozoa-immobilizing function.

Relatively speaking, the chemicals which make up the spermicidal preparations are not very potent. Very rarely are there any side effects or reactions to the use of these agents. Occasionally there is some slight allergic irritation, however consultation with a doctor can determine the allergy and irritation can often be avoided by changing the brand of preparation.

Instructions come with all products, and examples are given in the subsections of this chapter which consider the various products individually; however the method is about the same for all of them. All these preparations must be applied **within the hour (and some the half hour) immediately preceding coitus**. Also, new applications of the agent must be made after each act of coitus, and after the woman gets up from bed for any reason.

Suppositories, foaming or otherwise, are inserted by hand to the very end of the vagina and are left there for

**A. Application****B. Removal of Applicator****C. Distribution by Coital Movements**

### Application and distribution of spermicidal preparations when used as sole method of conception control

several minutes before coitus, so that the chemical agent spreads over the cervix. For others, an applicator comes with the bottle or tube. The applicator is filled and is gently pushed into the vagina until it touches the back of the vagina. The woman pulls the applicator back half an inch and then empties the contents by pushing in the plunger. The preparation is subsequently distributed by coital movements throughout the vagina and over the cervix. The applicator is later washed with warm water and soap.

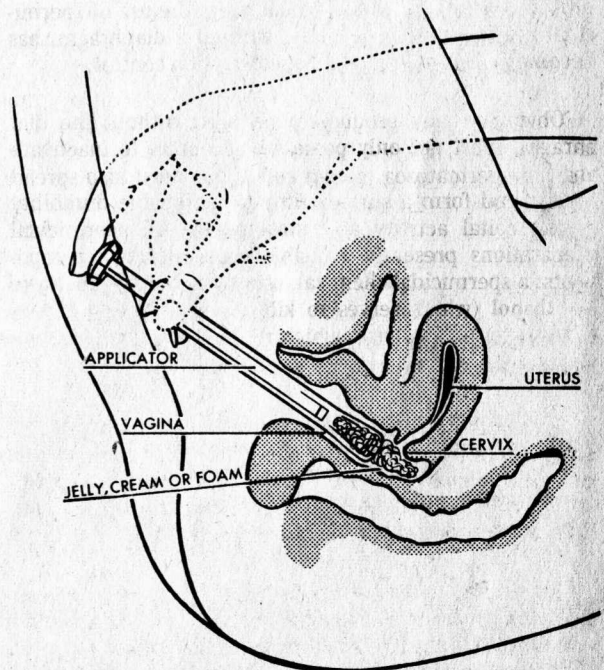
If pregnancy occurs, even though any of the spermicidal preparations were used, the baby will be in no way affected.

#### Aerosol Foams, Creams and Jels:

The obvious advantage of aerosol foam, jel or cream alone is that fitting and prescription by a physician, as with the diaphragm, is unnecessary. In addition, many couples feel the act of coitus more satisfactory without the presence of a "device".

A disadvantage, as many women complain, is that of "messiness". This complaint is often related to the type of product. The choice of jel, cream or aerosol foam should depend on the individual needs of the couple, most particularly to the amount of natural lubrication elaborated in the woman's vaginal tract during intercourse.

The aerosol foam (used with an applicator) is a recent variation of the cream method. It works on the same principle as the jel or cream alone, except that the agent is packaged in a container under pressure and is extruded as a foam into the applicator when the latter is pressed against the container. The foam has special qualities that

**Application of spermicidal preparation.**

make it particularly acceptable. A smaller amount by weight is delivered, so women complain less of messiness; cost per application is reduced; and furthermore, the vehicle (or the non-reactive base) has characteristics similar to those of a "vanishing cream", so that leakage from the vagina after coitus is greatly reduced.

The vaginal foams are considered better than either creams or jellies. The spermicidal creams cover the cervix well, and therefore are effective as contraceptives; however they are usually messy after coitus. Jellies are not as effective in contraception, as they sometimes spread out in an uneven way and do not kill some of the sperm. Also, body warmth tends to melt the jellies, making them messy.

#### Vaginal Foam Tablets (Foaming Suppositories)

Various foam tablets manufactured outside of the United States, notably in England, India and Japan have been used extensively.

##### Description:

The one gram tablets, usually packaged twelve per vial, are flat, round and white. The spermicide is in the class of safe, effective sperm-killing agents used in many of the vaginal contraceptive products manufactured in the United States. It is a special surface-active material high in spermicide value. The foam-producing materials are tartaric acid and sodium bicarbonate which, when moistened, produce carbon dioxide to form the foam. (One tablet will generate between 25 and 50 cc. of foam in 2 cc. of water). Included in the formula is a small percentage (0.01%) of bacteriostatic agent.

The foam distributes itself throughout the vagina and acts as a chemical and mechanical barrier to immobilize spermatozoa and prevent their passage through the cervix and into the uterus. According to laboratory tests the spermocidal power of one tablet is sufficient to immobilize the spermatozoa in 80 cc. of human semen in 20 seconds. This is at least 20 times the number of sperm cells in the average ejaculation. Hence, if before coitus only 25% of the tablet has dissolved, enough foam has been produced to immobilize the sperm in five times the average ejaculation. Further dissolution occurs at the time of ejaculation to provide reserve sperm-killing in addition to the highly spermocidal environment which has been prepared in advance. Clinical tests show no signs of local irritation or toxicity.

With proper packaging, these tablets have proved stable under the most adverse conditions. It is desirable, however, to keep the tablets cool, even under refrigeration, while in storage before distribution. The vial should be kept tightly closed in a cool place, and the tablets must be used within six months of receiving them.

The tablets can be purchased without a prescription and are available through most drug stores.

##### Method of use:

The instructions for use are simple. A tablet is moistened slightly with water (or saliva), immediately inserted

in the vagina and pushed with the finger as deep as possible into the vaginal canal. Preferably, this is done in a reclining position. After insertion of the tablet, an interval of at least five minutes (for the foaming action to occur). But no more than one hour, should elapse before having intercourse. Leakage, if objectionable, can be controlled by facial or toilet tissue, or a clean towel, placed against the external labia.

An additional moistened tablet must be inserted not less than five minutes before intercourse in the following circumstances: 1) if there is a delay of over one hour before intercourse; 2) if the woman gets up to walk around or go to the toilet before intercourse; and 3) each time intercourse is to be repeated.

#### Ordinary Suppositories:

Ordinary suppositories (non-foaming) are small cones usually designed to melt at slightly below body temperature. There are two commercial types of suppositories used as contraceptives, neither of which are very good: the cocoa-butter and the glycono-gelatin. The sperm-killing ingredients are usually quinine derivatives, salicylic acid and a carbolic-mercurial. The low melting point makes most suppositories difficult to keep in summer or tropical heat. Average melting time at body heat is 7 to 11 minutes, therefore, the suppositories should be inserted not less than 15 and no more than 60 minutes before sexual intercourse. An additional suppository must be inserted before each male ejaculation (i.e. this usually means before each act of coitus) and a douche cannot be taken until 6 hours after the last ejaculation.

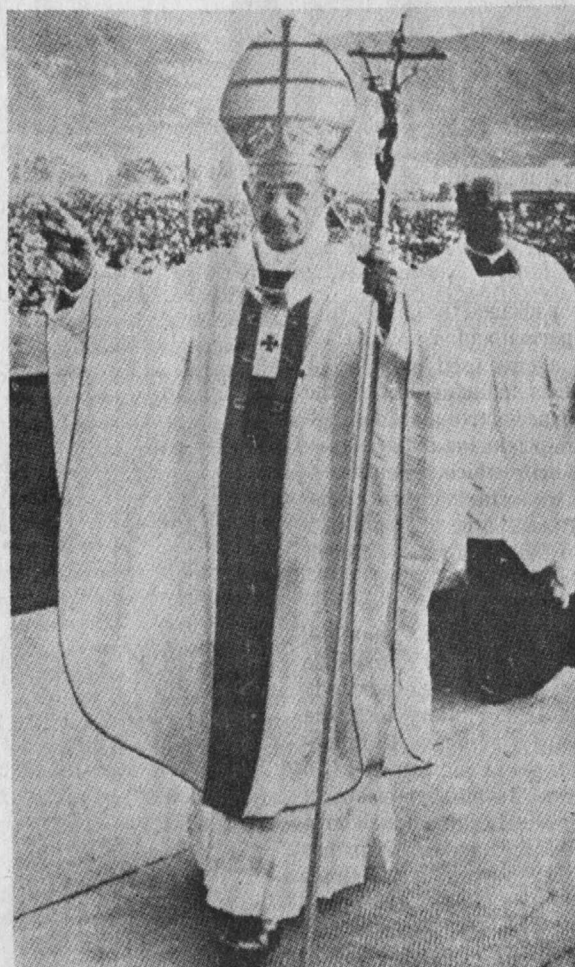
Only suppositories approved for contraceptive use can be depended upon to any extent. Those advertised for "feminine hygiene" may not have strong enough sperm-killing qualities to give adequate protection. In any case, non-foaming suppositories often do not completely block the entrance to the womb; also they often fail to melt sufficiently. Use of non-foaming suppositories for contraception is advised against by birth control clinicians.

The choice of a particular chemical vaginal contraceptive should be a matter of medical consultation. Many factors bear on the selection of a technique best tailored to the individual couple's demands. Selection must be made on the basis of the most effective physical properties and the least distressing aesthetic objections recorded for a particular agent. If the particular method raises aesthetic objections from either sexual partner, it is obvious that long-continued conscientious usage of the agent will be prejudiced.

There have not been any observations of cancer related to use of spermicidal preparations.

There are many spermicidal preparations used in a variety of contraceptive methods. None are without inherent technique failure characteristics. Popularity of these conception control methods has gone down significantly with the relatively recent introduction of birth control pills and intrauterine devices.

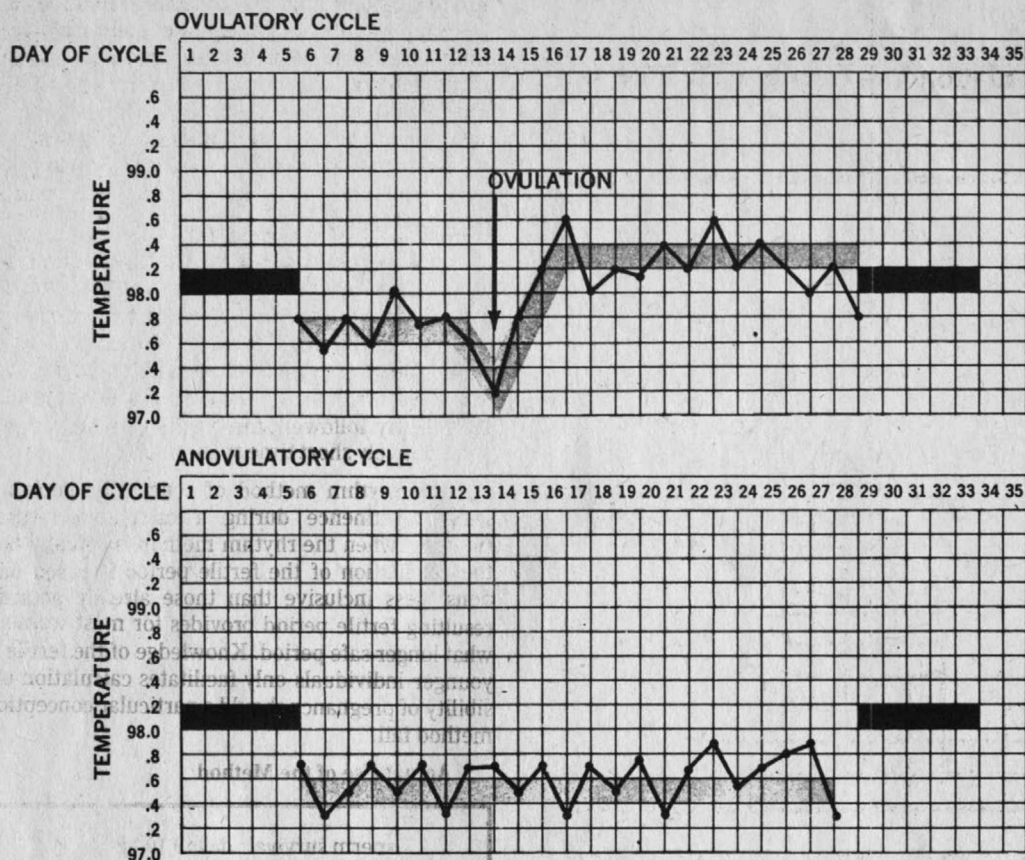
# rhythm



If, then, there are serious motives to space out births, which derive from the physical or psychological conditions of husband and wife, or from external conditions, the Church teaches that it is then licit to take into account the natural rhythms immanent in the generative functions, for the use of marriage in the infecund periods only, and in this way to regulate birth without offending the moral principles which have been recalled earlier. (20)

— From Encyclical Letter of Pope Paul VI *Humanae Vitae*.

## Basal Body Temperature During the Menstrual Cycle



The practice of temporary abstinence from sexual relations during the woman's fertile period is known as the **rhythm method** of conception control. Other names commonly used are: "the safe period" or "periodic continence".

As each normally functioning woman menstruates cyclically, the alteration, in each cycle, of infertile phases with intervening fertile phases, is designated her "rhythm". Omission of coitus, during fertile phases only, is what is meant by "periodic continence".

When this contraceptive method is used, sexual intercourse is avoided on the days between one menstruation and the next when an ovum is, or is soon to be, in the fallopian tube.

The rhythm method is based on the principle that the likeliest time of ovulation can be predicted by careful observation of successive menstrual cycles. Before using the rhythm method, a woman keeps careful record of her menstrual cycles for at least 8 months, and preferably for one year. A doctor's supervision is absolutely necessary — the rhythm method should not be attempted without guidance.

Aside from the necessity of keeping menstrual cycle records for long periods of time, the very high incidence of cycle irregularity in women 13 to 22 years old, makes the rhythm method an unfavourable and inadvisable one for younger individuals. Furthermore, most authorities caution against the rhythm method as unreliable for the

great majority of people. The impracticality and inherent limitations of the rhythm method will be considered more extensively in the description of the rhythm method itself.

It is strongly suggested by clinicians that younger women do not attempt to use this method.

It is generally assumed that when the menstrual cycle is 28 days long, ovulation occurs on day number 14. However, the easiest method of "accurately" estimating time of ovulation involves determination of body temperature when the woman is at rest: this is called the **basal body temperature**.

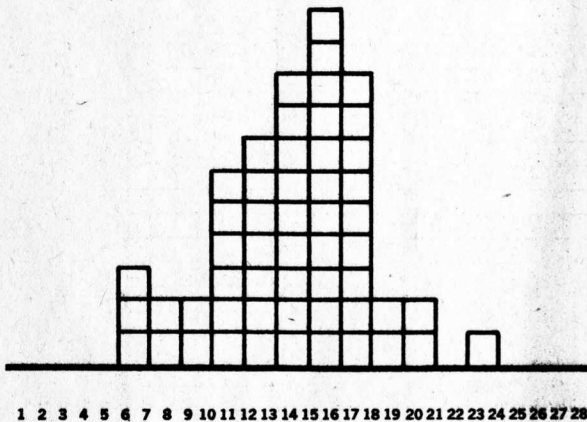
The above chart indicates that a drop in basal body temperature, with a duration of approximately 48 hours, occurs before ovulation. An elevation in basal temperature, with a duration of 14 days (the remainder of the ovulatory cycle), occurs after ovulation. Temperature elevation reaches its maximum immediately after ovulation.

However many women show no demonstrable temperature drop when basal temperature is recorded once daily. Such a temperature drop may well exist but be of such short duration as to be missed. Therefore temperature rise is relied upon when basal body temperature is used as an indication of ovulation time.

Even when calculating time of ovulation by using basal body temperature, there is no assurance of accuracy. Attempts to determine the exact time relationship between ovulation and basal body temperature have indicated that

## Day of Ovulation in a Group of 54 Women

(Each box represents an observation on one patient.)



the rise in temperature may occur from one to three days after ovulation. Therefore basal body temperature is only an approximate indicator of ovulation time.

Further variables are introduced by survival periods of sperm and ova. The theoretical period of sperm survival after release is 48 hours, of ovum survival, 24 hours. Therefore pregnancy can occur if coitus takes place within 72 hours following the beginning of rise in basal body temperature, i.e. the period during which a woman may conceive extends through 3 days after the temperature rise. Remembering that temperature rise may come from 1 to 3 days after ovulation, the inaccuracy and inherent limitations of the rhythm method are apparent.

This panel demonstrates the considerable variability in ovulation time among women. Therefore it is difficult to establish the day of the menstrual cycle at which conception is first possible. The earliest day of the menstrual cycle upon which ovulation occurred in any of the 54 women studied was day 8. Assuming that sperm can live up to 48 hours within the female reproductive tract, the earliest time at which coitus could lead to pregnancy would be the sixth day. However, viable sperm have been observed in cervical mucus as long as six days after coitus. There have been isolated reports of pregnancies resulting from coitus during menstruation. However

the earliest time during the cycle at which coitus could lead to pregnancy is usually considered to be day 5.

Couples who normally use contraceptive methods other than birth control pills are quite safe in having coitus without using any method for the first two days after menstrual flow stops. Since menstrual cycles are highly erratic in younger women (13 to 22 years old) and in women suffering from emotional strain or emotional shock, some contraceptive method must be used after menstruation has stopped.

It is generally assumed that conception is possible from day 5 of the cycle until 3 days after the rise in basal body temperature. This portion of the menstrual cycle is called the "absolute" fertile period. The safe period derived from this calculation begins on the 4th day after the rise in basal body temperature and ends the 5th day following the onset of the next menstruation – a relatively short time span.

The rhythm method of conception control requires sexual abstinence during a calculated fertile period. However when the rhythm method is actually being used, the calculation of the fertile period is based on assumptions less inclusive than those already presented. The resulting fertile period provides for most women a somewhat longer safe period. Knowledge of the fertile period for younger individuals only facilitates calculation of the possibility of pregnancy should a particular conception control method fail.

### Actual Use of the Method

sperm survival: days 9 10 11  
time during which ovulation can occur:  
days 12 13 14 15 16  
ovum survival days: 17 18

### Days of the Menstrual Cycle

This chart presents the theoretical duration of events in the menstrual cycle from which the "fertile" period is calculated. According to these assumptions, ovulation will occur at some time during a period of five days. Sperm survival is estimated at 2 days and ovum survival is estimated at 1 day. The total time span covered by these events is called the "theoretical fertile period". The chart shows that the theoretical fertile period of any menstrual cycle covers a period of 8 days.

Another assumption used simultaneously in calculating the fertile period is that ovulation occurs about 14 days before the onset of the next menstruation; thus in a 28 day cycle, ovulation is assumed to occur about day 14, while in a 32 day cycle, ovulation is assumed to occur about day 18.

### Calendar Method and Calendar - Temperature Methods:

first day of fertile period	last day of fertile period	Method
18 days before earliest likely menstruation	11 days before latest likely menstruation.	Calendar Method
	3rd day after rise in basal body temperature	Calendar Method
		Temperature Method

Shown above are two different methods by which limits of the fertile period are determined for the rhythm method of conception control. According to the calendar method, the first day of the fertile period for a woman with a regular 28 day cycle would be day 10 and the last day of the fertile period, day 17. Assuming that a woman has a regular cycle of 26 days duration, according to the calendar method, the first day of her fertile period would be day 8 (26 minus 18), the last day would be day 15 (26 minus 11), and the number of days covered by the fertile period would also be 8 days. When the menstrual cycle is variable and the calendar method is being used, the first day of the fertile period is calculated from the month with the shortest cycle, the last day from the month with the longest cycle.

The calendar-temperature method is based on a more

accurate approximation of ovulation time during a given cycle. In a woman whose menstrual cycles vary in length, the fertile period would be shorter if calculated by the calendar-temperature method, since the last day of the fertile period is the 3rd day after the rise in basal body temperature and not 11 days before the latest likely menstruation.

Basal body temperature may become elevated as the result of many conditions (e.g. infection). Therefore, the actual period of time during which pregnancy must be considered a possible result of coitus has been stated to begin as early as day 5 of the cycle. In short, even the more accurate calendar-temperature form of the rhythm method may easily fail because of menstrual cycle irregularity or a rise in basal body temperature resulting from a cause other than ovulation.

# coitus interruptus

The oldest method of birth control known to be still in use is coitus interruptus, ("withdrawal" or "being careful"). Even today it may be the most widely used method.

Coitus interruptus is clearly better than no method at all, however it is far from safe.

## Method:

This method of conception control is very simple; just before orgasm the male withdraws his penis from the vagina and region of external genitalia of his partner, and ejaculates on the skin of the woman's stomach or lower abdomen region, or on to the bedclothes. The man's sperm is thus prevented from entering the vagina, and pregnancy cannot occur.

However, both partners are often left tense and unsatisfied because of this sudden interruption of coitus. The ejaculation does not have the benefit of assisting pressure of the vagina. Moreover, the woman is deserted at the high point of excitement. This can lead to harmful psychic and physical effects because of frustrated orgasm and congested genital organs.

## Difficulties involved with method:

In the presence of a suitable moist environment, sperm may not only survive but also succeed in reaching the ovum and effecting fertilization. During sexual intercourse, the external female genitalia as well as the vagina are sufficiently moistened by coital secretions to provide an

environment in which sperm may not only survive but even migrate within the reproductive tract. Therefore if intercourse takes place during a period or time when fertilization of the egg is possible, depositing the ejaculate near the external female genitalia could result in pregnancy.

It is important to remember that sperm cells within semen possess mobility of their own. When semen is deposited between the labia (external lips of the vagina), the moisture may often be sufficient for sperm to retain and exercise their mobility (whereas semen deposited on the skin quickly evaporates and sperm die).

Many couples often rely on intercourse between the labia or between the thighs in the mistaken belief that they do not run the risk of pregnancy. However cases are recorded of women who have become pregnant although the hymen remained intact (i.e. they were still technically virgins). Ejaculation too close to the external female genitalia can cause pregnancy.

Effective coitus interruptus, involving withdrawal before ejaculation, requires the man to be aware in advance of when ejaculation will occur. However evidence shows that complete ejaculation in a single emission (one powerful gush) occurs less than 50% of the time. At other times semen can be expelled intermittently or in a slow stream. Whether in these cases the man is aware of the exact mo-

ment when semen begins to escape, or whether he feels only the last portion of the ejaculation, is not known.

Also, Kinsey points out that with the imminence of orgasm both men and women experience a condition that varies from mild to considerable clouding of consciousness, in which all coital movements lose their voluntary character and become involuntary. This condition may last for several seconds, and during it a conscious action such as withdrawal is impossible. The shorter the duration of coitus, the more difficult it is for the man to recognize the boundary between different phases of feeling and behaviour. Those who lack considerable sexual experience find it even more difficult to determine accurately and consistently the imminence of orgasm.

Sperm may enter the vagina even if withdrawal is successful because sperm cells may leak at the beginning of coitus. When erection occurs, a drop of liquid is produced by mucous glands inside the urethral opening. Spermatozoa (sperm cells), mobile and viable after many hours, have been found in these mucous drops as well as in ordinary urine specimens. Because such a drop of moisture may actually be deposited in the vagina at the beginning of coitus, conception could theoretically result even though intercourse is interrupted before ejaculation.

There are further difficulties involved for men who are not circumcised. If coitus occurs once, followed by ejaculation, some sperm may remain alive and mobile underneath the foreskin. If coitus then occurs a second time, these living sperm may be introduced into the vagina.

To summarize, pregnancy may result despite use of coitus interruptus since sperm can enter the vagina in the following ways:

1. ejaculation in stages, or interruption of coitus after some semen has already been deposited in the vagina;
2. inability of some men to withdraw the penis from the vagina in time;
3. ejaculation close enough to the external sexual organs of the woman that spermatozoa can migrate into the vagina;
4. before ejaculation, escape of a drop of semen containing a number of sperm;
5. presence of sperm underneath the foreskin of men who are not circumcised.

The chances that #4 or #5 would lead to pregnancy are slight because of the very small number of sperm involved.

#### Interrelated physiological and psychological problems connected with method:

Masters and Johnson have clearly demonstrated that with sexual excitation complex anatomical and physiological changes occur in genital and perigenital structures. After orgasm complementary processes occur which return the structures to a normal state. However this process fails to occur in the same orderly and relatively rapid

fashion if sexual excitation has not culminated in orgasm. Occasional failure to reach climax after excitation is probably not harmful but it would be unrealistic to expect that repeated interruption would not result in some observable changes.

Urologists condemn coitus interruptus, attributing to it various difficulties with the male prostrate gland. However, there have been no methodical studies on this question, and therefore conclusions are not well substantiated.

Psychological problems related to coitus interruptus have been considered more carefully, and, due to a relation with such problems as impotency and frigidity, coitus interruptus can often be a dangerous practice.

Many men and women apparently overevaluate ejaculation as the sole measure of virility. Hence, denial of the unrestricted right to ejaculate can seem to be a deprivation of the man's most important and obvious male prerogative.

Some cases of impotence which occur in connection with coitus interruptus can certainly be explained on a physiological basis, especially for those men who have a premature ejaculation. However, the majority are probably far more closely linked to psychological factors. The man may be tense and anxious, afraid of not being able to control himself and at the same time afraid of a possible disturbance of potency. If he has ever been impotent while attempting coitus interruptus he may soon find himself in the vicious circle so characteristic of impotent men. "Unsuccessful" coitus produces the strong fear that the next attempt will also be unsuccessful, which almost unavoidably leads to exactly what is feared. The man may soon believe himself "incapable" and be overwhelmed at the thought that his partner will also believe it. This can be an almost insoluble problem, especially at the beginning of a relationship, before the partners know each other well.

The psychological stress of coitus interruptus can also result in unresponsiveness in women. Frigidity develops primarily on a psychological basis, although it can also result from certain physiological conditions (as can impotency in men). It is certain that in most cases a combination of factors is present.

In older literature it is stated that withdrawal without orgasm for women can lead to a congestion of blood in pelvic organs and eventually to pelvic inflammation. However, interrupted coitus differs from completed coitus only by seconds, and if the partners are in sexual harmony the interruption can only mean that on some occasions the woman's orgasm is somewhat less strong than on others. Although this may become a psychological problem if the woman believes that she has missed something important, it cannot lead to physical damage.

The woman's fear and lack of confidence can also be important contributing factors to her inability to respond. She may fear she will be cheated of orgasm or that the man may not withdraw in time, and thus may be tense during the entire coitus. Thus, the same cycle which is seen in men can result — fear, causing incapacity, causing fear. It should be remembered that in both sexes this vicious cycle is not unique to coitus interruptus: it can appear with any form of conception control — or with none.

# other methods

Various methods of conception control, because of inherent limitations or other particular characteristics, need not be considered extensively by this handbook. These methods can be classified in two groups; firstly, the so-called contraceptive methods which are, for all practical purposes, ineffective. Individuals contemplating use of some form of conception control should be warned against such "methods"; secondly, the particular form of conception control that will not be used by younger individuals, namely, male and female sterilization.

Immediate post-coital douching, total self-restriction of female orgasm known as "holding back", prolonged nursing, and coitus reservatus constitute the first group of so-called conception control methods.

There are serious drawbacks to use of the douche as a contraceptive method. If there is to be any possibility of effectiveness for conception control, the douche must be used immediately after intercourse — an unpleasant interruption for the woman. More significantly, at that time, the pressure of the douche might easily force concentrated sperm into the cervical orifice; sperm could very well continue and effect fertilization. On the other hand, if the pressure of the douche is inadequate to distend the vagina, sperm remain untouched in the vaginal crevices. For these reasons the douche should not be considered a contraceptive method, and must not be used for conception control.

It should be noted that too frequent douching is harmful since it destroys protective bacteria in the vagina.

The strong coal tar "feminine hygiene" disinfectants should never be used. If not mixed properly, they will burn the tissues.

It is a relatively common belief that if the female partner "holds back" and does not permit herself to achieve orgasm during coitus, pregnancy is impossible. This belief is based on the misconception that women, like men, ejaculate in orgasm a substance that is necessary for fertilization. While it is true that there is a release of fluids when a woman reaches sexual climax, these fluids simply facilitate the swimming movement of sperm. In the partial absence of these secretions (absence is never complete), sperm can still reach the fallopian tubes and fertilize an

egg. There have been many pregnancies in women who have never had orgasm.

There is no truth to the belief that as long as a woman is nursing a baby she cannot conceive. Because of hormonal balances, during early months of breast feeding ovulation may be delayed, but this protection does not last long, nor is it reliable.

The practice of coitus reservatus is similar to coitus interruptus (withdrawal). The essential difference is that whereas in coitus interruptus the male partner does not allow himself to achieve orgasm and ejaculate within the woman's body, in coitus reservatus there is no ejaculation. The male does not withdraw, but remains in sexual contact during the female partner's orgasm and gradually his erection subsides. Such control for an hour or longer, it has been reported, requires training; further it is highly probable that some sperm will escape through the erected penis even though the male partner does not ejaculate. The control that is necessary for utilization of coitus reservatus as a contraceptive method cannot be maintained by many men. The same psychological and physiological arguments against coitus interruptus are directed against

Sterilization as a method of conception control, whether in male or female, involves relatively simple but permanent medical operations which close small tubes necessary for fertility. There have been some cases of reparatory operations; however, the possibility of success in such second operations is small.

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## effectiveness

Pregnancy rate for any period of time during which a particular method of conception control is in use is obviously an expression of the failure rate of that method

Such failure data are often expressed in terms of the formula known as the "Pearle Formula":

$$1,200 \times \frac{\text{total number of conceptions}}{\text{total months of exposure}} = \frac{\text{pregnancy rate per 100 woman years}}{\text{woman years}}$$

The figure 1200 is taken because it is assumed that ovulation occurs on the average 12 times a year; 12 is multiplied by 100 since the end figure is in 100 woman years. Some newer data are based on the assumption that ovulation occurs, on the average, 13 times a year; hence 1300 is taken as the figure in the formula.

A "woman year" standardizes pregnancy rate in terms of the number of times conception is possible during a year's period of exposure. The exposure assumes regular contacts with the sexual partner, no intervening pregnancies, and ovulation during each menstrual cycle.

### Representative Failure Rates for Different Methods of Preventing Pregnancy

The chart lists failure rates (number of pregnancies per 100 woman years) for each method of conception control according to two patterns of use. The data are limited to those methods for which there are empirical data.

Constant use failure rates are derived from women who claim to use one method regularly; total use failure rates are derived both from women who claim to use one method regularly and from those who use that same method irregularly.

Method	Constant Use (per 100 woman years)	Total Use (per 100 woman years)
coitus interruptus	about 15	about 30
condom method	about 5	about 15
diaphragm method	about 3	about 15
intrauterine devices	about 1	about 3
oral contraceptives	approx 0	about 5
(The combination method is slightly more effective than the sequential method.)		(1-5 pills missed per month)
spermicidal preparations	about 4	about 10

On the assumption that a given method is always correctly used (which of course cannot be determined absolutely), constant use failure rates more closely approximate failures of "method" as opposed to "individual" failures.

There is a considerable amount of disagreement as to the relative effectiveness of the condom method. Mary S. Calderone (editor of *The Manual of Contraceptive Practice*) classifies the condom in the same effectiveness group as the diaphragm or cervical cap. Since the development of the latex process in the production of condoms, factory defects have been almost completely eliminated.

Many doctors consider that the possibility for "individual failure" is greater when using spermicidal preparations and therefore that condoms should be considered more effective than preparations used by themselves (i.e. without a diaphragm). Furthermore, the condom is often coated before use with spermicidal cream or jelly (never petroleum jelly) which increases its effectiveness. The *Manual of Contraceptive Practice* presents the following ratings list. It should be noted that the following list does not include the IUD method:

Ratings are based upon clinical experience and statistical studies:

Group 1. Most effective: oral contraceptives.

Group 2. Highly effective: diaphragm or cervical cap with cream or jelly; "combined" method; condom method  
Group 3. Very effective: aerosol vaginal foam.

Group 4. Less effective: creams and jellies used alone; foam tablets; suppositories; coitus interruptus; rhythm method; sponge with foam.

Group 5. Least effective: breast feeding.

Group 6. Probably ineffective: vaginal douche, plain or with chemicals added.

Although it is extremely difficult to estimate, with accuracy, the frequency of use characteristic to one method it is most probably safe to state that coitus interruptus, one of the least effective methods, is the most commonly used. Furthermore, even though there has been a significant increase in use of birth control pills recently, it is also most probably accurate to state that the next most commonly used method among younger individuals is the condom method. Obviously, "any method is better than no method", however the chance of pregnancy being the result of many sexual contacts is apparently needlessly high.

When considering the meaning of effectiveness percentages it should be remembered that all figures are approximations at best. The most variable factor in consideration of effectiveness is "individual failure". Oral contraceptives are reported to be 100% effective. These figures are irrelevant if a woman on the oral contraceptive program forgets to take even a single pill. The reported effectiveness of the condom method, for example, should be considered in the same light. Condoms manufactured today are, almost without exception, defect-free, and theoretically should be 100% effective. However effectiveness of the condom varies with individuals and the mistakes they may make.

When choosing a particular contraceptive method, couples must remember that its effectiveness will vary not only by technical, biological or biochemical failures of the "method" but more significantly, it will vary with the frequency of "individual failure", if any.

To summarize, maintaining the condom method as an example, a non defective condom will definitely stop sperm from reaching an egg; however, if that non-defective condom is left in a wallet, or is allowed to slip off and spill into the vagina after the erection has subsided, pregnancy is a definite possibility.

# side effects

It is generally assumed that oral contraceptives, intrauterine devices and, in certain cases, spermicidal preparations are the only methods of conception control that cause true biological, biochemical or anatomical side effects. Many "side effects" experienced by individuals using any form of contraception are psychosomatic i.e. certain women react or think they are reacting physically to what is really bothering them psychologically. For example, a woman who has strong guilt feelings about premarital sexual relations is more susceptible to psychosomatic reactions. It is important, however, for individuals using any conception control method to be aware of symptoms or irregularities connected to the method being used; it is incorrect to maintain the attitude "it will go away".

A doctor must be consulted in the case of any reaction to any of the contraceptive methods. It should be noted that the description given here of side effects is inclusive and not indicative of what should be expected. The vast majority of women using any form of contraception experience either none of the reactions described or only the very minor and non-serious ones.

Side effects to oral contraceptives:

## Outline

Pertinent statistics (England):

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women taking oral contraceptives \*

1:150,000 woman (over 30 years of age) experiences serious thrombotic trouble.

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women not taking oral contraceptives \*\*

1:5,000 women in the best milieu dies of having a baby.  
1:500 women has serious vascular trouble while pregnant.  
1:200 women smoking 5 cigarettes a day dies of lung cancer.

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\* It should be noted that the ratio of women not taking the contraceptive pill who experience thrombotic trouble is only slightly lower than 1:150,000

\*\* These statistics are given to put the first figure in perspective.

Side effects and prohibitions:

1- Pregnancy: practically unknown if pills are taken regularly as prescribed. Combination method probably safer than sequential method.

2- All other usual side effects are like a small touch of pregnancy or premenstrual discomfort, e.g. if breasts swell in the premenstrual period they will swell as a result of taking contraceptive pills. The minor side effects include: headache, weight change, fluid retention (more frequent in women who have been previously troubled with premenstrual tension), leg cramps, elevated blood pressure, nausea (similar to "morning sickness"), vomiting or other digestive problems, tenderness, secretions or enlargement of the breasts, dizziness, pelvic pain, and breakthrough bleeding or spotting. In most cases all minor side effects disappear completely in 2 to 3 months.

2. A serious side effect is loss of any part of vision occurring either constantly or intermittently within a few days or two weeks at most after the first pill. This is serious but very rare and the pills must be stopped immediately.

4. Effect on veins is generally minor and may appear only after 1 to 2 years of taking pills. The appearance of small spider veins on legs and arms is not in any circumstance due to a pill effect and should cause no alarm.

5. No contraceptive pills should be taken after an attack of jaundice until the woman has been thoroughly checked by her physician over a period of time sufficient to ascertain that liver function is back to 100%.

NOTE: The use of contraceptive pills to "bring on" a missed period is useless if the woman is pregnant, and may very well produce gross malformations in the early embryo. That is, once fertilization has occurred oral contraceptives can not abort the foetus.

Since the oral contraceptives produce a pseudopregnancy (i.e. a biochemical condition in the female resembling pregnancy) side effects which commonly occur during pregnancy sometimes also occur during the oral contraceptive program. However, there is a sharp decline in incidence of complaints after the first cycle of the program. Some doctors feel that the high first cycle incidence and data from double-blind experiments suggests that there is a significant psychological factor involved. (Note: a double-blind experiment involves separating a group of women in half and giving one half oral contraceptives and the other inert pills. Both groups are told that they are taking birth control pills but not to rely on them for contra-

ception). It has also been suggested that the body adjusts to the new hormonal balance after one or two cycles and side effects therefore cease. Most women never experience any side effects from the pill. If breakthrough bleeding is included with other complaints in all cycles of medication, an incidence of 25-30% is recorded for (as an example) norethindrel (trade mark).

The sequential pills are associated with decreased incidence of breakthrough bleeding, more "normal" menstrual pattern following the end of medication, and fewer side effects in general. The sequential method has been developed more recently than the combination method. The production of sequential pills is the result of an effort to formulate an oral contraceptive program which more closely follows the natural hormonal pattern.

Oral contraceptives (both combination and sequential) may occasionally be associated with bleeding episodes between the menses. Uterine bleeding occurring between menstrual periods (metrorrhagia) is usually referred to as "breakthrough bleeding". The incidence of such bleeding usually as intramenstrual spotting, is highest in the earliest cycles of the contraceptive program and at lower dosages (e.g. 1 mg in comparison to 2 mg. pills). Also a forgotten pill increases possibilities of bleeding.

As with the administration of any new endocrine substance and particularly with those possessing effects on tissue proliferation (in the lining of the uterus), the question of cancerous transformations has been raised. Despite widespread, prolonged and continuous administration of the synthetic hormones used in the contraceptive pill, no connection with cancer has been established. In the Puerto Rican and Haitian trials, no malignancies were detected in approximately 1,000 endometrial biopsy specimens obtained from Enovid (trademark) users. The Pap vaginal smears that have been taken do not indicate any cancer-stimulating effect. There is in fact an implication of cancer inhibition which is being studied further.

Evidence to date indicates that ovulation suppression through the oral contraceptive program does not reduce the ovarian potential for producing normal eggs (i.e. the fertility of the woman). Also all infants born of women who had used oral contraceptives in the Puerto Rican, Haitian, Texan and Mexican studies have not suffered any abnormalities from birth attributable to medication despite very careful screening by examining physicians.

When fluid retention is noted it is usually mild. The retention sometimes occurs as the result of changing sodium balances in the body which are related to the estrogens.

Liver studies on Enovid (trademark) users in Haiti and Puerto Rico failed to indicate any liver impairment. Even so, the existence of liver disease is usually considered a reason for not prescribing oral contraceptives.

Unfortunately, even the most up to date information available dealing with connections between oral contraceptives and blood clotting diseases is highly contradictory. Because of the disagreement concerning this question, women with a history of thrombotic episodes or with existing thrombotic conditions are usually not given oral contraceptives. Otherwise no special precautions are needed.

Nausea and vomiting can be reduced by taking the daily pill after the evening meal. If this is not a convenient

time, then taking the pill with antacids or milk may be helpful. In the case of vomiting, a doctor should be consulted as the hormones may not have been absorbed by the body. The doctor may advise taking another pill on the same day.

#### Side effects to intrauterine devices:

When Grafenberg published findings in 1929 describing his research with what eventually would be called the intrauterine device, he instigated a considerable amount of extremely critical literature aimed against the use of IUDs in contraception. More recent analysis, as well as the development of IUDs made of inert substances (plastic, stainless steel etc.) indicates that the danger of pelvic infection is actually relatively minor. Even so, a considerable amount of research is being continued both to reduce side effects accompanying IUDs as well as to establish exactly what is the contraceptive action of the device.

With present devices, complications which appear most commonly are cases of pelvic infection and cases of breakthrough bleeding. The intrauterine devices may also increase bleeding during the menstrual flow (menorrhagia)

#### Side effects to spermicidal preparations:

Some women have allergic reactions to certain spermicidal preparations. If such an allergic reaction is suspected a doctor should be consulted. A change in brand or method is usually suggested.

No matter what contraceptive method or device is being used, the appearance of a reaction should immediately be reported to a doctor.

# abortion



303 Every one is guilty of an indictable offence and liable to imprisonment for life who, with intent to procure the miscarriage of any woman, whether she is or is not with child, unlawfully administers to her or causes to be taken by her any drug or other noxious thing, or unlawfully uses on her any instrument or other means whatsoever with the like intent.

304 Every woman is guilty of an indictable offence and liable to seven years imprisonment who, whether with child or not, unlawfully administers to herself any drug or other noxious thing, or unlawfully uses on herself or permits to be used on her any instrument or other means whatsoever with intent to procure miscarriage.

Criminal Code of Canada, Chapter 36, Part VI



homosexuality? sexual depravity? sexual irresponsibility? sexual incompetence?

There are still so many questions to answer. One thing is sure. The racial memory enshrined as the Establishment does not have the answers.



## Abortion in Montreal

Getting an abortion in Montreal is really quite simple. All you need is a contact and enough money to pay for the service.

What you pay has no relation to the complexity of the operation. The price is inflated by fear and risk — the fear of the women who need the abortionists; and the risk to the abortionists, who, if qualified medical practitioners, can lose their licences and be jailed if caught.

The fear of the women, who find themselves with unwanted pregnancies, is enough to cause thousands to break the law every year in Canada and go underground for illegal abortions. This they do in spite of the two year imprisonment penalty if caught.

The jail term is on the statute books because the law condemns anyone who undergoes or performs an abortion. And though some view the subject sympathetically, society, in general, would rather not talk about it too openly, hoping it will go away and work itself out somehow.

It won't.

Illegal abortion is here, and has been for a long time.

Whether it is here to stay depends on the attitude changing fast — of an increasingly enlightened society (...)

### Statistics elusive

Statistics about illegal abortion, understandably, are difficult to obtain.

Estimates, however, range from 1,000,000 a year in the United States to 300,000 a year in Canada.

Death rate figures due to illegal abortions are equally elusive. The Dominion Bureau of Statistics showed 21 last year.

And on the basis of that figure, Michael Forrestall

(PC — Halifax) recommended that the Commons health and welfare committee adjourn its study of abortion.

He said the death rate from illegal abortions was seven for every 10,000 abortions. At that rate, the 300,000 figure for illegal abortions should result in something over 2,100 deaths. The DBS figure, therefore, proved the 300,000 estimate to be "unmitigated nonsense."

Do Statistics prove anything? Should a more accurate DBS figure be the lever which gives illegal abortion status and, therefore, action? Can statistics have any impact when the whisper there's a chairman of an abortion committee on a local university campus proves to be fact?

### Abortion 'chairman'

Surely statistics lose their impact when the "chairman" — she smiles at the title — tells you: "Last week I referred six girls to abortionists."

That may not be a significant figure either. But then, 18-year-old Jane (her name is as fictitious as the others) hasn't been at her voluntary job very long.

A first-year student, she enrolled herself in the job when her girlfriend "got herself pregnant." She couldn't have the child, she needed an abortion. She was from out of town, she had no money and she was becoming a nervous wreck. She needed help and she wasn't getting it. She needed someone to take over.

"Maybe there is a moral issue involved. I think it's just as immoral to have a baby that is so unwanted. Pregnancy in my home was always a happy time," said Jane, the eldest in her family. "When my mother was pregnant it was exciting. There was joy in touching her stomach and waiting for the kick. This (her friend) just wasn't pregnancy. I couldn't equate my friend's pregnancy to life."

Jane, who'd never been in her friend's situation, began to ask around. She discovered "it was really easy".

"You meet nice people. People who will lay a lot on the line for a principle they believe in. Not the kind of people that sit around and talk about it at cocktail parties. I got the first name of an abortionist from a friend. It wasn't difficult."

Before she knew it, Jane had collected "seven or eight names. I can't remember," and began to tick the list off on her fingers.

Jane reports that the price ranges from \$275 to \$600 per operation. She is also able to report that, contrary to popular belief, abortion is safe and quick if performed by a competent physician under hospital conditions before the third month of pregnancy.

"The doctors I've met aren't alcoholic or lecherous. I suppose some of them do it for the money, but one reputable doctor I've met doesn't charge as much as he could. I think he does it because he believes in it" (...)

### Epidemic scale

Whether illegal abortion is practiced on an epidemic scale or not is of little consequence to those women who wish to have their pregnancies terminated.

Because of the present setup they are forced to break the law, forced to endanger their health, forced to risk death if the contact has been misinformed and the abortionist is unqualified (...).

by DORIS GILLER

reprinted from The Montreal Star

# glossary

## A

**absolute fertile period:** time when conception is possible  
**aerosol foam:** vaginal spermicidal contraceptive in foam form: packaged in pressurized cans.  
**ampulla:** reservoir where sperm are stored before going through penis  
**anovulatory menstruation:** menstruation without production of egg  
**anterior vaginal wall:** upper vaginal wall

## B

**bacteriostatic agent:** substance preventing growth or multiplication of bacteria  
**basal body temperature:** temperature of the resting body  
**"being careful":** coitus interruptus  
**breakthrough bleeding:** irregular uterine bleeding

## C

**cervical appendage:** extension of coil and loop forms of IUDs used by individuals to check position of device  
**cervical os:** cervix  
**cervix:** dome-like, narrow neck of the uterus which opens into the vagina  
**circumcision:** removal of the foreskin of the penis  
**climax:** peak of sexual act; orgasm  
**clitoris:** female organ of sexual sensation  
**clitoral manipulation:** direct stimulation of the clitoris (usually digital)  
**coital secretions:** glandular lubrication during coitus  
**coitus:** sexual intercourse  
**coitus interruptus:** method of contraception in which male withdraws penis before ejaculation  
**coitus reservatus:** contraceptive method in which ejaculation is not allowed to occur  
**combination form:** of oral contraceptives; pill containing both estrogen and progesterone  
**conception:** fertilization; union of sperm and egg  
**condom:** mechanical contraceptive covering penis during coitus  
**condom cap:** condom covering only glans of the penis  
**constant use failure rate:** failure rate of contraceptive method obtained from women claiming to use method consistently  
**corpus luteum:** mass of endocrine tissue developing from ovarian follicle  
**creams:** vaginal spermicidal contraceptive in cream form

## D

**diaphragm:** contraceptive device; round rubber dome which serves to provide a mechanical barrier for the cervix and a platform for a sperm killing preparation  
**douche:** stream of water or liquid compound used to clean vagina

## E

**ejaculation:** ejection of semen from the penis immediately after orgasm  
**endocrine gland:** ductless gland; control gland for the body

which releases chemical compounds directly into the bloodstream

**endometrial biopsy:** medical examination of endometrial tissue

**endometrium:** lining of the uterus

**epididymis:** tube network on side of testis which collects newly-made sperm

**erectile tissue:** parts which can be erected during sexual stimulation (e.g. male penis and female clitoris)

**erection:** stiffening of the penis by blood pressure during sexual stimulation

**estrogen:** a sex hormone

**ethanol:** sperm killing chemical; an alcohol

**external genitalia:** outer sexual parts

**external labia:** outer lips of the vagina

**extrusion:** removal of penis from vagina

## F

**failure rate:** pregnancy rate for a contraceptive method over a particular period of time

**fallopian tube:** oviduct; tube conducting the egg from ovary to uterus

**female supine position:** in sexual intercourse, female below male

**feminine hygiene disinfectants:** douching compounds

**final seminal fluid:** combination of sperm cells and all lubricating fluids

**fluid retention:** water retention; kidneys do not eliminate enough water

**foaming suppositories:** vaginal spermicidal foaming contraceptive in tablet form

**foam tablets:** vaginal spermicidal contraceptive in tablet form

**foetus:** unborn child in later months of development

**follicle:** pocket on edge of ovary where egg matures until released at ovulation

**foreskin:** fold of skin covering glans of the penis

**"fourer":** condom (brand name)

**"french letter":** condom

**frigidity:** sexual anesthesia in women; lack of sexual desire

## G

**gametic:** containing reproductive substances (ovum and sperm)

**gametic transport:** movement within female reproductive tract of ova and sperm

**genital:** general term for sexual parts

**glans:** sensitive head of clitoris or penis

**gonadotropins:** hormones released by the pituitary gland which stimulate the ovaries to produce estrogen and progesterone

**gonads:** sex glands; in male, the testis; in female, ovaries

**Grafenberg Ring:** intra-uterine device

**gynaecologist:** medical specialist in treatment of women

## H

**"holding back"**: conscious effort by a woman to prevent her own orgasm; sometimes believed to be a contraceptive method

**homologous organs**: corresponding organs (i.e. in male and female)

**hormone**: chemical compound secreted by a ductless gland regulating body activity

**hymen**: membrane covering entry to vagina (maidenhead)

## I

**impotence**: male inability to achieve or maintain an erection

**individual error factor**: failure of contraceptive method due to individual misuse of the method

**intrauterine**: within the uterus

**introducer**: instrument used by doctors to insert IUDs into the uterus

**intromission**: entry of penis into vagina

**IUD**: intrauterine device; contraceptive device placed in the uterus

## J

**jels**: vaginal contraceptive in jelly form

## K

**knee-chest position**: a coital position

## L

**labia**: lips

**lamb caecum**: tissue from lamb intestine

**latex process**: a manufacturing process used in production of rubber condoms

**lubricated rubber prophylactics**: rubber condoms coated with substance to reduce friction (e.g. lubricated Ramses)

## M

**maidenhead**: hymen

**meatus**: opening at tip of glans of penis; opening of cervix into vagina

**medical history**: record of past illnesses

**menopause**: end of menses; "change of life" in a woman after which menstruation no longer occurs

**menorrhagia**: extra heavy bleeding during menstrual flow

**menses**: periodic shedding of the uterine lining

**menstrual cycle**: periodic process of ovarian and endometrial development; including ovulation and menstruation

**menstrual flow**: flow of blood and tissues caused by sloughing off of uterine lining

**menstruation**: sloughing off of endometrial tissues

**"morning sickness"**: nausea common in pregnant women

## N

**natural lubrication**: caused by glandular secretions in the vagina during sexual stimulation

**nidation**: implantation of fertilized egg in endometrium

## O

**orgasm**: explosive discharge of sexual tension during sexual climax; in male, followed by ejaculation

**ovarian follicle**: follicle

**ovaries**: two organs which, during alternate months, produce eggs and certain hormones

**oviducts**: fallopian tubes

**ovulation**: release of egg from follicle in the ovary

**ovum (ova)**: egg produced by follicle

## P

**Pap vaginal smears**: method for the early detection of cancer

**Pearle Formula**: a formula used to compute effectiveness of contraceptive methods

**pelvis**: part of body containing genital organs and end of intestines, enclosed by pelvic bones

**penis**: male reproductive organ

**perigenital**: around the genitalia

**"pinhole"**: small hole in condom

**pituitary gland (master gland)**: an endocrine gland

**pituitary gonadotropins**: hormones produced by pituitary gland

**placenta**: mass of blood vessels in womb leading to foetus; umbilical cord through which the foetus is nourished; expelled as "after-birth"

**post-coital douching**: douching after sexual intercourse

**progesterone**: a sex hormone

**prophylactic**: condom

**prostate gland**: gland at base of penis; active in ejaculation

**pseudopregnancy**: biochemical condition in the female resembling condition during pregnancy

**psychosomatic**: physical symptoms resulting from mental conflict

## R

**"Ramses"**: condom, brand name

**rhythm**: female menstrual cycle

**rhythm method**: of conception control; sexual intercourse limited to safe periods when conception is least possible

**"rubber"**: condom, made by latex process

## S

**"safe"**: condom

**"safe" period**: period when conception will not occur; used in rhythm method

**scrotum**: bag containing sperm plus nourishing and lubricating fluids

**semen**: male sexual fluid containing sperm plus nourishing and lubricating fluids

**seminal fluid**: semen

**seminal pool**: concentration of deposited sperm in upper vagina

**seminal vesicles**: pouches near base of penis where semen is stored before ejaculation

**sepsis**: serious blood poisoning

**septic abortion**: abortion of foetus caused by blood poisoning in the uterus

**sequential form**: oral contraceptives in which first 14 pills contain only estrogen, and the next 7 pills contain both estrogen and progesterone

**sexual foreplay**: erotic physical actions preceding coitus

**sheath**: condom

**skin condoms**: condoms made of animal membrane

**sloughing**: casting off, shedding

**sperm**: male sex cell containing genetic material

**spermicide**: sperm killing substance

**spermatozoa**: sperm cells

**spermicidal preparation**: sperm killing substance

**spotting**: breakthrough bleeding

**sterility**: inability to reproduce

**sterilization**: operation which results in inability to reproduce

**steroid**: chemical compound

**suppository**: vaginal contraceptive in tablet form

## T

**tampon**: cotton roll used to absorb vaginal secretions internally (e.g. to absorb menstrual flow)

**testis**; **testicles**: male reproductive organs producing sperm

**sperm**: male glands producing hormones

**theoretical fertile period:** 8 day period when conception is most possible

**theoretical safe period:** in the rhythm method, when conception will not occur

**tip condom:** prophylactics covering only the glans of the penis

**total use failure rate:** rate calculated from regular and irregular use of method

**"Trojan":** condom (brand name)

**U**

**urethra:** urethral canal; passage conducting urine from bladder; male urethra also conducts semen

**urinary bladder:** sac for temporary retention of urine

**urologist:** specialist in the branch of medicine dealing with the urinary or urogenital tract

**uterine opening:** cervix

**uterus:** womb; muscular organ where foetus develops

**V**

**vagina:** female sexual organ which receives penis

**vaginal secretions:** glandular secretions in the vagina released during sexual stimulation

**vas deferens:** tube carrying sperm from epididymis to ampulla

**vehicle:** non-reactive base in spermicidal preparations

**venereal disease:** contagious disease contracted in sexual intercourse; two well known kinds are syphilis and gonorrhea

**vulva:** external genitalia in female

**W**

**withdrawal:** coitus interruptus

**womb:** uterus

# bibliography

Much of the Birth Control Handbook text was taken verbatim from any one or any combination of the books, pamphlets, articles and information sheets listed below. In almost all cases the material lost its identity because of intensive editing. Therefore a bibliography is supplied while footnoting was not attempted.

Dr. Thomas Primrose, who is not listed below, must be given greater credit than any of the authors named. For seven months he provided invaluable aid for the editorial staff. We have depended upon him for up to date resource material and editorial corrections. In particular, the section on side effects is largely Dr. Primrose's work. In general, the Handbook could not have been produced without his help.

Allan Feingold, Editor

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## Photos:

Photographs on covers and on pages 6, 10, 11, 31, 32, 34, and 38 are from *The Family of Man* (photographic exhibition), Maco Magazine Corp, New York, 1955.

The diagrams on pages 15, 16, 17, 18 are from *Manual of Contraceptive Practice*.

The diagrams on pages 2, 4, 14, 17, 20, 23, 24, are from *Methods of Conception Control*.

