

## EXPERIENCE WITH ENDOUTERINE CU T DEVICE

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### Introduction

Extensive experience with Lippes loop has shown that if the loop is big, the side effects like bleeding and pain are more, and if the loop is small, expulsion and pregnancy rate are high. The pain and bleeding are thought to be due to distention of the uterine cavity, and compression of the endometrium. Tatum invented the "T" shaped device in 1966. It fits the uterine cavity even when the uterus is contracted to its maximum, and its lateral walls almost touch each other. But very soon it was learnt that although endometrial compression and myometrial distention were minimal with polythene T, the pregnancy rate was very high. Zipper of Santiago was at the same time experimenting with metallic Cu and found that it had antifertility effect. Tatum and Zipper combined the well tolerated polythene T with metallic copper wound round the verticle limb of the T. Various lengths of Cu wire, 0.2 mm in diameter were used, giving a surface area of 30 sq. mm, 120 sq. mm, 200 sq. mm, 300 sq. mm. The contraceptive effect of Cu T lasts as long as there is sufficient ioniz-

able Cu on the device. Experience has shown that 20% of Cu mass is lost in one year of its use. For maximum effectiveness it is better to replace the device after two years. The Cu is not harmful to the woman as it is an essential element of human nutrition. Even excess of Cu is looked after by the body, by increased storage in the tissues and blood proteins, and increased excretion in the bile. The daily release of Cu even from a Cu 300 device is 100 ugm/day, which is less than 10% of daily intake in food. Copper is toxic to the sperm, and prevents the nidation of blastocyst, but once the nidation takes place it does not harm the embryo or the foetus. Fertility is restored soon after the removal of the device. As the Cu T device seemed to be better than the commonly used Lippes loop, it was decided to study the two devices simultaneously and compare the results.

### Material and Methods

Fertile patients between 18/40 years of age, attending the Urban Family Planning Centre, attached to the department of Obstetrics And Gynaecology, Gandhi Medical College and S. Z. Hospital, Bhopal, were given Cu 200 T device or Lippes loop 27.5 mm, when the patient wanted an I.U.D. The study was started on 1st June 1972, and 200 cases of Cu T

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device were completed on 30th September, 1973. These were compared with 200 cases of Lippes loop. The Cu T device was supplied by the Indian Council of Medical Research, New Delhi.

#### Observations

The details of closure are shown in Table I.

TABLE I  
Reasons for Closure

S. No.		Cu T	Lippes loop
1.	Expelled	8	12
2.	Removed	25	42
3.	Lost to follow up	1	12
	Total	34	66

Table I shows that the device was expelled in 8 patients in Group A, and in 12 cases in Group B. Twenty-Five patients of the Cu T series had the device removed for medical or non-medical reasons, as against 42 patients in the Lippes loop series. We may mention here that we were more liberal in removing the Cu T device as we did not want this new I.U.C.D. to become unpopular during the trial stage only. Even then, Lippes loop series had a larger number of removal.

Table II, shows the reasons for removal in the two groups. Sixteen patients in Group A (Cu T) had either continuous or irregular bleeding per vaginum, lasting for two weeks to three months, and the device was removed. In Group B, twenty-six patients had the loop removed for continuous or irregular bleeding. Lower abdominal pain was the cause of removal in two and six cases in Groups A and B, respectively. Similarly, white discharge was the indication for removal, for more cases in Group B than in

Group A. Displacement of the device was not seen in this series of Cu T device. Giddiness, though psychological, was the reason for removal in two cases in Group B, and none in Group A.

TABLE II  
Details of Removal Due to Side-effects

S. No.	Reason	Cu T	Lippes loop
1.	Continuous bleeding since insertion	5	12
2.	Bleeding off and on	11	14
3.	Pain in lower abdomen	2	6
4.	Excessive white discharge	1	3
5.	Displacement	Nil	2
6.	Giddiness	Nil	2
	Total	19	39

Three patients who were themselves satisfied with the Cu T device, had come for removal as their relatives did not want any I.U.C.D. Other causes of removal were, divorced—I (Group A), wants pregnancy in Group A, and 2 in Group B. The device was removed in 1, Group A, because the husband was going away for a long time.

Table III shows that even the minor complaints were 4-5 times more common

TABLE III  
Patients Having Minor Complaints With the Device

S. No.	Complaints	Cu T	Lippes loop
1.	Menorrhagia	10	60
2.	Pain in lower abdomen	2	16
3.	White discharge	4	14
4.	Backache	4	12
5.	Leg cramps	1	4
	Total	21	106

