

## THE IMPORTANCE OF INSERTION TECHNIQUE FOR IMPROVING RESULTS WITH THE COPPER T

by

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Clinical studies have been reported over the last 5 years showing that copper improves the performance of intrauterine devices. Reports by Zipper, Medal, and Prager,<sup>1</sup> and Tatum and Zipper<sup>2</sup> have substantiated a positive correlation between the surface area of copper applied to an IUD and its effectiveness both in lower mammals<sup>1</sup> and in humans.<sup>2</sup>

The application of copper to Loop A<sup>3, 4</sup> also has been reported to reduce the pregnancy rate. Our work with the copper T was part of the Collaborative Programme initiated by the Population Council and as such afforded an opportunity to make comparisons of clinical results between the collaborative data and the result at the Buffalo Planned Parenthood Center. Interesting differences were observed between the data of the Population Council's Collaborative Programme and that of the Buffalo Planned Parenthood Center, especially the different expulsion rates. This paper is written to describe these differences and the reasons therefore.

### *Study Design*

The study design has been described in an earlier paper.<sup>5</sup> The Planned Parenthood film strip describing various contraceptive methods including IUDs, oral contraceptives, diaphragms, condoms and vaginal chemical barriers was shown to

all clinic patients at the time of their initial visit. Patients selecting the Copper T were informed of the experimental nature of this method. Patients ranged in age from 15-45 with a mean age of 24.9.

The T Cu 200 was introduced to the patients of the Buffalo Planned Parenthood Center in July of 1970. The clinicians of the Buffalo Planned Parenthood Center had an initial reaction to the protocol which precluded the use of sounding the uterus prior to insertion of the T Cu 200. We elected to eliminate this initial step. By so doing, we then had to alter subsequent steps which included moving the indicator on the T Cu 200 inserter toward the middle of the inserter. Thus, the indicator did not represent the length of the uterus from the fundus to the external os as it did in the protocol of the Collaborative Programme. Instead the indicator was used only to orient the clinician that the arms of the "T" would spring open in the frontal plane of the uterine cavity.

Further variations were introduced to improve the insertion technique which we believe account for the difference in the results between those observed in Buffalo and those reported in the Collaborative Programme.

The illustrations which follow demonstrate the technique of insertion of the T Cu 200 as utilized in the Buffalo Planned Parenthood Center.

Step 1. Careful pelvic examination delineating ante flexion or retro flexion, size of

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uterus, presence or absence of pathology or pregnancy.

Figure 1 describes the application of a tenaculum to the cervix. The loaded inserter is gently pushed to the fundus of the uterus. Countertraction is sustained with the tenaculum applied to the cervix. This countertraction straightens the cervical canal and allows the operator to more easily negotiate the cervix and properly position the inserter. The indicator remains in the middle of the length of the inserter and should not reach the cervix.

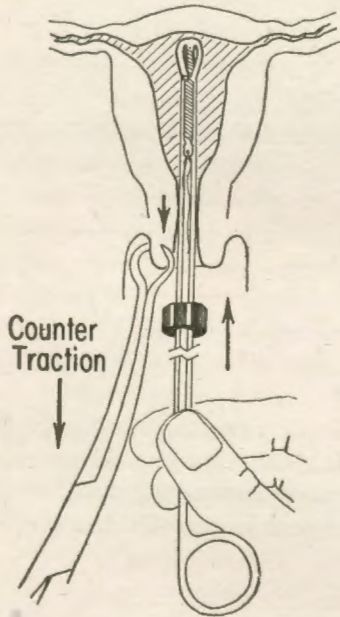


Fig. 1

Figure 2. While maintaining traction on the cervix, the operator pushes the sleeve of the inserter toward the thumb grip of the plunger. This allows the arms of the "T" to swing open in the frontal plane.

Figure 3. This to some extent repeats Fig. 1, but it should be observed that the sleeve of the inserter without the plunger now is moved again up toward the fundus, so that the operator is absolutely

certain the "T" with extended arms is at the fundus.

Figure 4. The sleeve is removed from the uterine cavity by retraction and

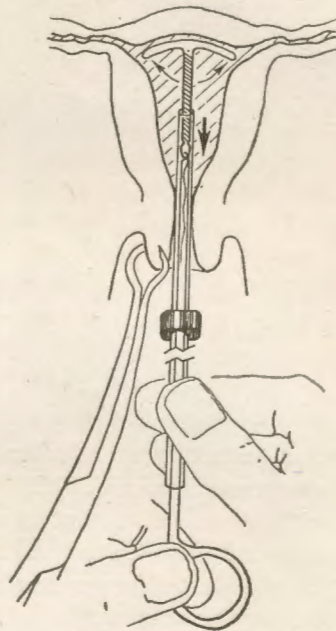


Fig. 2

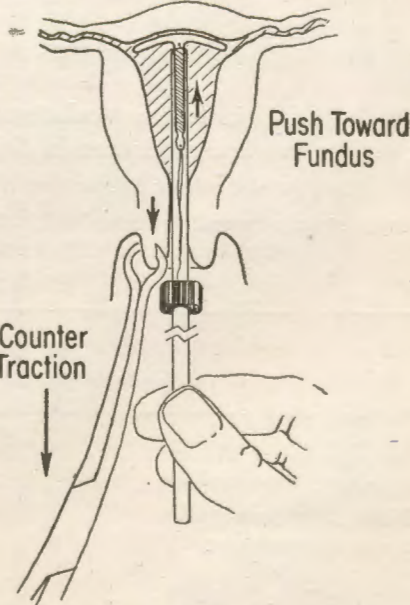


Fig. 3

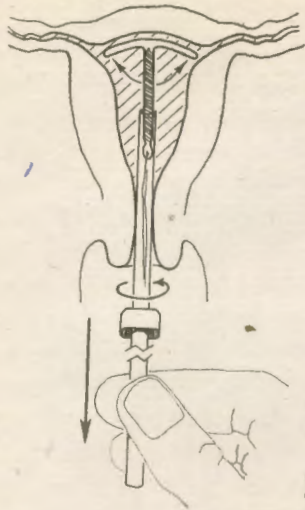


Fig. 4

simultaneous, continuous rotation. This rotation forces one arm of the "T" to lock on the posterior wall of the uterus while its opposite member locks on the anterior wall of the uterus. After removing the plunger the threads are cut about 1 cm. from the external os of the cervix.

Figure 5 reveals the proper positioning of the copper T.

#### Results

Utilizing the insertion technique as described, a marked difference in the ex-

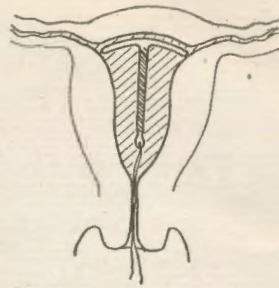


Fig. 5

pulsion rates of the "T" between the Buffalo Planned Parenthood Center and the Collaborative Project was noted. Results were calculated according to the decrement life table analysis as described by Tietze.<sup>6</sup>

After one year of experience with the Copper T 200, the Collaborative Programme of the Population Council reported an expulsion rate of 11.3 per 100 woman years. At the Buffalo Planned Parenthood Center the expulsion rate was observed to be 2.6 per 100 woman years during the first year of use, a dramatic contrast.

In all other parameters the results between the Collaborative Programme and the Buffalo Planned Parenthood Center are comparable (See Table 1).

TABLE I

A comparison of results obtained with the TCu200 between The Buffalo Planned Parenthood Center and the Collaborative Study of The Population Council.

TCu 200—1 Year of Use

	Population Council Collaborative <sup>7</sup>	Planned Parenthood Buffalo
Pregnancy	2.5	2.21
Expulsions	11.3	2.6
Removals		
Medical reasons	13.7	12.15
Planning pregnancy	1.5	2.59
Other personal	2.1	1.55
Total Event Rate	31.1	21.10
No Event Rate	68.9	78.90

### Discussion

The difference in expulsions appears to be significant especially in view of close comparability of all other results with the Copper T 200 between the Buffalo Planned Parenthood Center and the Collaborative Programme of the Population Council. It should be borne in mind that the low expulsion rate of the Copper T at the Buffalo Planned Parenthood Center is data which was included in the Collaborative Programme because the Buffalo Planned Parenthood Center was one of the participating institutions. If the data from the Buffalo Planned Parenthood Center were removed from the Collaborative Programme it is obvious that the expulsion rates for the Collaborative Programme would have been much higher and the contrast even greater.

### Conclusion

From clinical observations and data collected from the Collaborative Statistical Programme of The Population Council and the Buffalo Planned Parenthood Center, we have observed a significant difference in expulsion rates of the Copper T. The expulsion rate in the Buffalo Planned Parenthood Center was 2.6 per 100 woman years while in the Collaborative Programme of the Population Council, the expulsion rate was 11.3 per 100 woman years.<sup>7</sup> This allows the Buffalo Planned Parenthood Center to report a continuation rate of 78.9 per 100 woman years, at the end of 1 year, while the Collaborative Programme observed a continuation rate of 68.9 per 100 woman years<sup>7</sup> at the end of 1 year.

The better continuation rate at the Buffalo Planned Parenthood Center can be accounted for by the reduction in expulsion. It would appear that the technique of insertion is responsible for the reduced expulsion rate at the Buffalo Planned Parenthood Center. The importance of insertion technique for better results with an IUD is emphasized.

### Acknowledgement

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### References

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