Objective
To report overall duration of function and live baby rate from cryopreserved ovarian tissue using slow freeze versus vitrification.

Design
13 patients over a 10 year period underwent thaw and transplantation of ovarian tissue that had been frozen up to 20 years earlier with detailed follow-up of hormones, menstruation, pregnancies, and birth. Three of the thirteen had had leukemia. Nine had undergone slow freeze and 4 had undergone vitrification.

Method and Materials
106 females between age 6 and 35 were referred for possible ovarian tissue cryopreservation. 92 of whom had the procedure performed, over a 20 year period. Before 10 years ago only slow freeze was utilized, and after that only vitrification. Nineteen underwent slow freeze, and the rest vitrification. 13 cases whose tissue was frozen prior to age 35 returned up to 18 years later to have their tissue transplanted back, and have more than 2 years of post-transplant followup. 9 were from slow freeze before 10 years earlier, and 4 were from vitrification in the last 10 years. No IVF or ancillary treatment was administered.

Results
All 13 cases had return of ovarian function 4 to 5 months post frozen transplant with return of FSH to normal with regular menstrual cycling. AMH rose to high levels as the FSH came down to normal. Then AMH 4 months later declined to very low levels, but the grafts remained functional for 5 years or longer, and 8 of the 13 are still functioning. Nine of the 13 (69%) resulted in at least one spontaneous pregnancy with a healthy baby. A total of 12 healthy babies have been born, and there was one miscarriage (10%). Slow freeze (7/9) had a 78% live baby pregnancy rate, and vitrification (2/4) had a 50% live baby pregnancy rate.

Conclusion
Ovarian tissue cryopreservation and transplantation is a robust method of fertility preservation. Vitrification is easier, but not superior to slow freeze.