scribed for the preparation of non-toxic gonadotrophic concentrates from normal male urine.

Assayed in normal rats, such concentrates of pooled samples of urine of healthy college men give a quantitative titer of 1.0 to 4.5 rat units per liter. In normal mice titers of 6.0 to 20.0 mouse-uterine units per liter were obtained.

Assayed in hypophysectomized rats it is found that follicle stimulation and interstitial cell repair are usually produced at the same dosage level, although in some instances follicle stimulation may be produced at a dosage level as low as one-third that necessary for interstitial cell repair.

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Qualitative Differences between Positive Streptococcal Antifibrinolysin Tests.*

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Positive streptococcal antifibrinolysin tests[1, 2, 3] are generally regarded as indicative of the presence of a specific "antibody." There are instances, however, when this seems unlikely.[4] Milstone[5] has recently demonstrated that the plasma-clots of rabbits are resistant to lysis by human strains of hemolytic streptococci because they lack a substance—"lytic factor"—which is present in normal human serum. The addition of "lytic factor" to rabbit plasma results in rapid liquefaction of the clot by fibrinolysin. This observation was of considerable interest to us because of its possible clinical application since it might explain some of the apparently non-specific positive antifibrinolysin tests (resistant clots) which we have observed in infants and children.[4]

Newborn blood frequently gives a positive test in spite of the

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1 Tillett, W. S., and Garner, R. L., *J. Exp. Med.*, 1933, **58**, 485.

2 Tillett, W. S., Edwards, L. B., and Garner, R. L., *J. Clin. Invest.*, 1934, **13**, 47.

3 Tillett, W. S., *J. Clin. Invest.*, 1935, **14**, 276.

4 Boisvert, P. L., *J. Clin. Invest.*, 1940, **19**, 65.

5 Milstone, H., *J. Immunol.*, 1941, **42**, 109.

fact that there is no clinical or bacteriological evidence of a recent hemolytic streptococcal infection in the mother and her test is negative.[6, 4]

As a starting point for the present study the blood from newborn infants was chosen first for comparison with the blood of children with positive tests following a hemolytic streptococcal infection. It seemed likely that newborns would generally have resistant plasma-clots for only one of two reasons—either because of absence of a substance or because of the presence of antifibrinolysin. In sick children both of these factors might be involved.

This study represents a comparison of the blood of 10 normal newborns with that of 10 children who were convalescing from scarlet fever and other hemolytic streptococcal infections. All had maximally positive streptococcal antifibrinolysin tests.

Methods. The routine antifibrinolysin test was performed as originally described by Tillett and Garner. 0.2 cc of human plasma was diluted with 0.8 cc of normal salt solution. To this was added 0.5 cc of an 18-hour broth culture of hemolytic streptococcus (known to dissolve normal plasma-clots in 15 minutes). Lastly, 0.25 cc of calcium chloride was added. The contents of the tube were thoroughly mixed and incubated in a waterbath at 37.5°C. A solid clot formed in about 10 minutes. The interval between the time of clotting and that of complete liquefaction determined the reading of the results of the test: 4+, no lysis of the plasma-clot in 24 hours; 3+, complete lysis in 8-24 hours; 2+, complete lysis in 3-8 hours; 1+, complete lysis in 1-3 hours; —, complete lysis in less than 1 hour.

In this study the test was varied to include serum, and the amount of saline was reduced accordingly so that the total volume of constituents remained the same. Serum was added just prior to the addition of calcium chloride since earlier addition of serum resulted in premature clotting. Normal serum was added in 0.8 cc amounts, and serum from newborns and from patients with a hemolytic streptococcal infection in 0.2 cc quantities.

TABLE I.
Blood of Newborns Lacks a Property Present in Normal Blood.

Newborn Plasma	(by Routine Test)	=	Resistant Clot
" "	+ Normal Serum	=	Susceptible "
" Serum	+ " Plasma	=	" "

Note: Resistant clot denotes no lysis of clot in 24 hours. Susceptible clot denotes complete lysis within one hour.

[6] Lippard, V. W., and Wheeler, G. W., *Am. J. Dis. Child.*, 1936, **52**, 61.

TABLE II.
Blood of Streptococcal Convalescents Possesses a Property Absent from Normal Blood.

Streptococcal Convalescent	Plasma	(by Routine Test)	=	Resistant	Clot
"	"	"	+	Normal	Serum	=	"	"
"	"	Serum	+	"	Plasma	=	"	"

Note: Resistant clot denotes no lysis of clot in 24 hours. Susceptible clot denotes complete lysis within 1 hour.

The results which are summarized in Tables I and II indicate that the resistant clots of newborns depend on a different mechanism than those observed in patients recovering from a hemolytic streptococcal infection. In newborns resistance is apparently due to the *absence* of a substance since their clots are rapidly dissolved when normal serum has been added, and resistance cannot be passively transferred to a normal plasma by the addition of newborn serum. The converse is true of the blood of patients recovering from a hemolytic streptococcal infection, that is, their resistance is due to the *presence* of a substance which is transferable.

Studies in progress indicate that the positive antifibrinolysin tests (resistant plasma-clots) encountered in patients with severe non-streptococcal diseases are frequently like those of newborns in that they are due to absence of a substance—presumably "lytic factor" of Milstone—and not to the presence of streptococcal antifibrinolysin. In other instances both absence of a lytic factor and presence of antifibrinolysin have been demonstrated.

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Ultraviolet Sterilizer for Celluloid Tubes.

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In the course of describing a high speed, air-driven centrifuge for the study of viruses, Bauer and Pickels[1] reported the use of celluloid tubes as satisfactory containers capable of withstanding high centrifugal forces. The tubes are transparent, light, flexible, and practically nonbreakable. More recently Horsfall[2] pointed out their ad-

1 Bauer, J. H., and Pickels, E. G., *J. Bact.*, 1936, **31**, 53.

2 Horsfall, F. L., Jr., *J. Bact.*, 1940, **40**, 559.