

average is 0.11. Its buffer for alkali is very variable; a change may be encountered on the addition of from 0.05 to 0.3 c.c. of fiftieth normal sodium hydroxid; the average is 0.07. The total buffer for serum varies from 0.1 to 0.3, the group average being 0.18.

The reserve buffer for acid varies from 0.1 to 0.4, the group average being 0.2. The reserve buffer for alkali ranges from 0 to 0.3, the group average being 0.12. The total reserve buffer varies from 0.15 to 0.6, the average being 0.33.

TABLE 2.—SUMMARY OF TWENTY-FOUR NORMAL CASES

		Blood		Serum	
		Extremes	Group Average	Extremes	Group Average
Buffer.....	For acid.....	0.2 - 0.4	0.18	0.1 - 0.3	0.11
	For alkali....	0.2 - 0.4	0.15	0 - 0.3	0.07
	Total.....	0.2 - 0.7	0.36	0.1 - 0.3	0.18
Reserve buffer.....	For acid.....	0.2 - 0.4	0.27	0.1 - 0.4	0.2
	For alkali....	0.2 - 0.4	0.31	0 - 0.3	0.12
	Total.....	0.4 - 0.7	0.58	0.15 - 0.6	0.33

TABLE 3.—MISCELLANEOUS CASES WITH NORMAL pH AND NORMAL BUFFER VALUES; SIXTEEN CASES; TWENTY DETERMINATIONS

		Blood	
		Extremes	Group Average
Buffer.....	For acid.....	0.1 - 0.3	0.13
	For alkali.....	0.1 - 0.3	0.17
	Total.....	0.2 - 0.5	0.3
Reserve buffer.....	For acid.....	0.1 - 0.3	0.25
	For alkali.....	0 - 0.3	0.23
	Total.....	0.3 - 0.6	0.48

Although the total buffer value or the total reserve value may be great, the buffer for either acid or alkali may be small; in other words, the buffer may be great for acid and small for alkali, or vice versa. This can be determined only by actual study of the individual acid and alkali buffer values, and it is obviously not shown by a figure expressing the total buffer value.

2. *Miscellaneous Cases with Normal pH and Normal Buffer Values.*—Twenty determinations were made on sixteen cases, including instances of diabetes mellitus, pernicious anemia, myeloid leukemia, typhoid fever, pregnancy, surgical cases before and after anesthesia, exophthalmic goiter and chronic nephritis (Table 3).