TABLE III.
Dinitrophenol and Oxidations Produced by Gonococci.

Substrate	O_2 Consumption in 30 Minutes	
	Without D.N.P.	With D.N.P.
Glucose	234.8	234.8
Lactate	48.2	44.0
Pyruvate	130.0	91.9

Conclusion. Since dinitrophenol is unable to oxidize such a labile compound as lactate activated by α-hydroxyoxidase; is without effect when the respiration of cells and tissues has been inhibited by cyanide or carbon monoxide; and has no action on the respiration of certain bacteria, where the complicated controlling mechanisms present in highly organized cells are absent, it is concluded that the increase in respiration produced by dinitrophenol is not due to direct oxidation of the oxidizable substrates. It is suggested that dinitrophenol acts by combining with some of the substances acting as agents for the control of the speed of cellular oxidations, thus increasing the activity of the oxidizing enzymes.

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Effect of Histamine and Alcohol on Acid Secretion of Stomach of Postoperative Cases.

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In order to stimulate the secretion of acid by the stomach of postoperative surgical cases, the action of histamine and alcohol was tested. In 10 cases a Rehfuss tube was inserted through the nose

TABLE I.
Histamine Tests.

No.	Control		15 min.		30 min.		45 min.	
	Free	Total	Free	Total	Free	Total	Free	Total
1	0	11	12	36	82	102	73	95
2	0	—	30	48	68	85	55	75
3	0	—	27	51	90	112	80	105
4	0	—	27	51	90	112	80	105
5	30	55	32	54	72	89	65	87
6	0	—	0	—	0	—	0	—
7	0	—	0	—	—	—	60	81
8	0	—	20	38	89	104	119	129
9	0	—	0	—	0	-	0	—
10	0	—	112	134	124	142	135	155

before complete recovery from the anesthesia and 2 to 5 hours later, 0.5 or 1.0 mg. histamine given hypodermically.

The results of these tests indicate that in many cases at least the impaired acid secretion may be readily remedied by histamine. The flow in 6 of the 10 cases was profuse and contained a high acid content. The reaction did not seem to be dependent on the type of operation or anesthetic as some of the minor operations failed to secrete while major operative cases often yielded high acid contents. One of those which failed to secrete acid had very large amounts of bile in the stomach which might have masked it but the other 2 did not.

Five similar tests were made with alcohol. The usual technique of the alcohol test meal was carried out, 50 cc. sauterne 15% alcohol being injected through the nasal tube.

TABLE II.
Alcohol Tests.

No.	Control		15 min.		30 min.		45 min.	
	Free	Total	Free	Total	Free	Total	Free	Total
1	0	—	40	63	46	70	35	53
2	0	—	0	—	0	—	0	—
3	0	—	0	—	0	—	0	—
4	0	—	56	83	110	112	56	72
5	0	—	0	—	0	—	0	—

Thus while but 2 of the 5 responded at all, in these two the acid reached very high titres.

It is clear, therefore, that in some cases at least the stomach of the usual postoperative case, in which achlorhydria is the rule, is capable of stimulation to secrete hydrochloric acid. There was obvious clinical benefit from the procedure. None of the patients vomited and none were nauseated. All were promptly given large amounts of solid food and appeared to have no discomfort. The contrast with the usual surgical patient at this stage of his convalescence was very marked.

Conclusion. Histamine and alcohol have their usual action of stimulating gastric secretion in the postoperative surgical patient. Their administration is clinically beneficial.