Medical Memoranda

Calculation of the Colour Index

Freedman (1946) describes a nomogram for the calculation of the colour index. Such nomograms are not new, having been described by Warburg (1927), Haden (1940), and others. Nomograms of this type suffer from one particular disadvantage in

made provision for a variable erythrocyte standard, but this is unnecessary and confuses the issue. A modified form of this rule (see diagram) has been in use in this laboratory for many years. To use the rule, the value of the erythrocyte count is set against the haemoglobin value, and the arrow then points to the colour index. It is only a matter of arithmetic to make

up a complete series of tables giving the colour index for varying erythrocyte and haemoglobin values, but such a set of tables is cumbersome in use. The appended table

that, for the smaller values of the red cell count and of the haemoglobin, the ruler makes an acute angle with the recording line, and the result becomes difficult to read. This can be obviated by the use of logarithmic scales for the haemoglobin and red cell values, in which case the colour index line will be parallel to the others.

Other methods of rapidly calculating the colour index have been devised, notably that of Symons (1936), which is, in effect, a slide rule with the B scale reversed. In its original form it

gives a rapid approximation accurate enough for clinical work. In general, however, one finds that where the calculation of the colour index is not done in the head the slide rule is the more popular.

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Colour Index

	0.50	0.55	0.60	0.65	0.70	0.75	0.80	0.85	0.90	0.95	1.00	1.05	1.10	1.15	1.20	1.25
1.0	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
1.1	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
1.2	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
1.3	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1.4	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
1.5	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1.6	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1.7	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
1.8	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
1.9	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
2.0	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
2.1	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
2.2	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
2.3	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
2.4	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
2.5	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
2.6	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
2.7	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42
2.8	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43
2.9	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
3.0	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
3.1	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46
3.2	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
3.3	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
3.4	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49
3.5	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
3.6	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51
3.7	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52
3.8	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53
3.9	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54
4.0	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55
4.1	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56
4.2	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57
4.3	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58
4.4	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59
4.5	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
4.6	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61
4.7	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62
4.8	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
4.9	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64
5.0	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65
5.1	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66
5.2	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67
5.3	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68
5.4	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69
5.5	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70
5.6	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71
5.7	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72
5.8	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73
5.9	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74
6.0	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75

To use the table, find the erythrocyte count in the left-hand column, and follow that line across to the observed haemoglobin or figure below. At the head and foot of the column will be found the colour index calculated to the nearest 0.05.