Tissue hypoxia has long been known to act as the fundamental stimulus for erythropoiesis through increased production of circulating erythropoietin. Only recently has enhanced dissociation of oxyhemoglobin in the red blood cell come to be regarded as no less important a compensatory mechanism.

In various conditions associated with hypoxemia, such as exposure to high altitudes, anemias, cardiac decompensation and chronic lung disease, the red cell responds by making more oxygen available to the tissues as a result of increased levels of 2,3-DPG (2,3-diphosphoglycerate).

The metabolic role of 2,3-DPG remained a mystery from the time of its discovery in the mammalian red cell by Greenwald in 1925 until, more than 40 years later, Benesch and Benesch and Chanutin and Curnish found it to be a powerful regulator of hemoglobin's affinity for oxygen.

A small organic phosphate molecule, 2,3-DPG is a highly charged anion that binds reversibly, mole for mole, to deoxyhemoglobin but not to the oxygenated form. 2,3-DPG is produced as a late intermediate in glycolysis and is normally present in the red cell in approximately equimolar concentration to hemoglobin. As levels of 2,3-DPG increase in response to hypoxia the binding sites of hemoglobin for oxygen are diminished. As a result, increased tissue oxygenation is possible in the absence of an increased oxygen pressure gradient.

In hypoxic hypoxemia (high altitudes), individuals respond within 24-36 hours with a significant increase in red-cell 2,3-DPG level and a corresponding decrease in hemoglobin affinity for oxygen. Reversal of these changes occurs upon return to sea level.

In anemias, the decreased oxygen capacity of the blood requires an enhanced delivery at the tissue level to meet resting metabolic needs and even to a greater extent the oxygen needs of the tissues under stress conditions. Up to half the oxygen deficit in anemia may be compensated for as a result of 2,3-DPG-induced changes in hemoglobin affinity for oxygen.

The evidence supporting its prime role as an oxygenator in hypoxic states leads to the question of how the red-cell 2,3-DPG level may be favorably influenced by drug therapy.

Possible Treatment with Androgens

In addition to the established effects of androgens in enhancing erythropoiesis, androgen-induced increase in red-cell 2,3-DPG has recently been reported. Testosterone enanthate in man at a dose of 400 to 600 mg bi-weekly, testosterone propionate in rats and Deca-Durabolin in primates produced significant increases in red-cell 2,3-DPG. These agents have already been successfully employed in a variety of clinical conditions associated with bone-marrow failure, including patients with chronic renal failure on hemodialysis. By virtue of 2,3-DPG-induced changes in oxygen affinity for hemoglobin, a previously unrecognized action of androgens may lend welcome pharmacologic support to the integrated homeostatic defense against hypoxia. A unique advantage offered by Durabolin and Deca-Durabolin in therapy is that jaundice has not been associated with their use and virilizing effects are considerably reduced.
CONTRAINDICATIONS:
1. Male patients with carcinoma of the prostate or breast.
2. Carcinoma of the breast in some females.
3. Pregnancy, because of masculinization of the fetus.
4. Nephrosis or the nephrotic phase of nephritis.

WARNING: Anabolic steroids do not enhance athletic ability.

PRECAUTIONS:
1. Hypercalcemia may develop both spontaneously and as a result of hormonal therapy in women with disseminated breast carcinoma. If it develops while on this agent, the drug should be stopped.
2. Caution is required in administering these agents to patients with cardiac, renal or hepatic disease. Edema may occur occasionally. Concomitant administration with adrenal steroids or ACTH may add to the edema.
3. If amenorrhea or menstrual irregularities develop the drug should be discontinued until the etiology is determined.
4. Anabolic steroids may increase sensitivity to oral anticoagulants. Dosage of the anticoagulant may have to be decreased in order to maintain the prothrombin time at the desired therapeutic level.
5. Anabolic steroids have been shown to alter glucose tolerance tests. Diabetics should be followed carefully and the insulin or oral hypoglycemic dosage adjusted accordingly.
6. Anabolic steroids should be used with caution in patients with benign prostatic hypertrophy.
7. Serum cholesterol may increase during therapy. Therefore, caution is required in administering these agents to patients with a history of myocardial infarction or coronary artery disease. Serial determinations of serum cholesterol should be made and therapy adjusted accordingly.

ADVERSE REACTIONS:
2. In Females: a. Hirsutism, male pattern baldness, deepening of the voice and clitoral enlargement. These changes are usually irreversible even after prompt discontinuance of therapy and are not prevented by concomitant use of estrogens, b. Menstrual irregularities, c. Masculinization of the fetus.
4. Alterations in these clinical laboratory tests: a. The metamyelocyte test, b. Glucose tolerance test, c. The thyroid function tests: a decrease in the TBI, in thyroxine-binding capacity and radioactive iodine uptake, d. The electrolytes: retention of sodium, chlorides, water, potassium, phosphates and calcium, e. Liver function tests: 1) increased serum cholesterol, 2) Suppression of clotting factors II, V, VII, and X.

SUPPLIED:
Durabolin (sterile sesame oil solution for intramuscular injection) is available in a strength of 25 mg per cc. in 5 cc. vials and 1 cc. ampuls, with 5% benzyl alcohol and as Durabolin-50 containing 50 mg per cc. in 2 cc. vials with 10% benzyl alcohol.
Deca-Durabolin (sterile sesame oil solution for intramuscular injection) is available in a potency of 50 mg/cc. with 10% benzyl alcohol (preservative):
1. cc. ampuls, box of 4.
2. 2 cc. multiple dose vial.
Also available in a potency of 100 mg/cc. with 10% benzyl alcohol (preservative):
2 cc. multiple dose vial.

CAUTION: Federal law prohibits dispensing without prescription.

Diagrammatic representation of oxygen transfer in a muscle capillary. In hypoxia, increased concentrations of 2,3-DPG in the red cell decrease the affinity of hemoglobin for oxygen, thereby enhancing oxygen liberation to the tissues.


NAS/NRC review panels have classified Durabolin and Deca-Durabolin possibly effective adjuvant therapy in certain refractory anemias.
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INDICATIONS: This is not an innocuous drug and strict attention should be given to the indications for its use. Pending further investigations other hyperuricemic states is contraindicated at this time.

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Contraindications: Pending further investigation, this drug is presently contraindicated for use in children with the exception of those with hyperuricemia secondary to malignant disease who are particularly susceptible to uric acid stone formation in nursing mothers. Patients who have developed a severe reaction to Zyloprim should not be given it.

Warnings: A few cases of reversible clinical hepatotoxicity have been noted in patients taking Zyloprim® and in some patients asymptomatic rises in serum alkaline phosphatase or serum transaminase have been observed. Accordingly, periodic liver function tests should be performed during the early stages of therapy, particularly in patients with pre-existing liver disease.

Due to the occasional occurrence of drowsiness, patients should be alerted to the need for due precautions when engaging in activities where alertness is mandatory.

An increase in heparin concentration has been reported in rats given Zyloprim. Although adverse studies have not been done in our laboratory, additional investigations are under way to clarify this point. Accordingly, iron salts should not be given simultaneously with Zyloprim. This drug should not be administered to immediate relatives of patients with idiopathic hemochromatosis.

Usage in Pregnancy and Women of Childbearing Age
Reproductive studies showed no adverse effect of Zyloprim on animal litters. However, the potential of the drug to inhibit the oxidation of xanthine and xanthine oxidase may impair the ability to conceive and to maintain pregnancy, though no abnormalities have been reported in animal studies. Babies of mothers exposed to Zyloprim® have been born with no apparent adverse effect.

Pregnancy:
In pregnant women, the drug should not be administered during pregnancy unless the potential benefits to the patient justify the possible risk to the fetus.

Precautions: Some investigators have reported an increase in acute attacks of gout during the early stages of allopurinol administration. However, such combined therapy is not contraindicated and, for many patients, may provide optimum control. A report by Goldberg et al. on a patient treated with sulfinpyrazone and salicylate in addition to allopurinol did, however, show a marked decrease in the excretion of uric acid, suggesting interference with their clearance at the tubular level. Although clinical evidence to date has not demonstrated renal precipitation of oxypurines in patients receiving allopurinol alone or in combination with uricosuric agents, the possibility should be kept in mind. A fluid intake sufficient to yield a daily urinary output of at least two liters and the maintenance of a neutral or, preferably, slightly alkaline urine are desirable (1) to avoid the theoretic possibility of formation of xanthine calculi under the influence of allopurinol and (2) to help prevent renal precipitation of urates in patients receiving concomitant uricosuric agents.

A few patients with pre-existing renal disease have shown a rise in BUN during Zyloprim administration although a decrease in BUN has also been observed. Although the relationship of these observations to the drug has not been established, patients with pre-existing renal or hepatic insufficiency should be carefully observed during the early stages of Zyloprim® administration and the drug withdrawn if increased abnormalities in renal function appear.

Mild reticulocytosis has appeared in some patients, most of whom were receiving other therapeutic agents, so that the significance of this observation cannot be presently known.

As with all new agents, periodic determinations of the following blood counts and complete blood counts should be performed:

In patients receiving Purinethol® brand Mercaptopurine or brand Azathioprine, the concomitant administration of 300-600 mg. of Zyloprim/day will require a reduction in dose to approximately 1/4 of the usual dose of Purinethol brand Mercaptopurine or Imuran brand Azathioprine. Subsequent adjustment of doses of Purinethol or Imuran should be made on the basis of therapeutic response and any toxic effects.

Adverse Reactions: The most common adverse reaction is skin rash which is most frequently maculopapular in type; exfoliative, urticarial and purpuric lesions have also been reported. Occasionally, fever has accompanied the cutaneous reaction. In some cases, reactivation of gout has been accompanied without untoward incident. Occasional reports have appeared of several cases of amenorrhea, amenorrhea associated with fever, chills, leukopenia or leucocytosis, eosinophilia, arthralgia, skin rash, puritis, nausea and vomiting have been reported in a few patients. There have been a few additional reports of asymptomatic leucopenia but relationship to Zyloprim has not been established.

A report of peripheral neuritis in a patient treated with Zyloprim has been received; relationship to drug has not been established.

A 65 year old female with gout and myxedema who was treated with allopurinol, colchicine, propoxphene, thyroid and chlorhydrate for four months. Allopurinol and colchicine were discontinued when the patient was found to have anemia (10.6 g.) and leukopenia (3300). At that time, the patient had been given penicillin for a cellulitis of the toe. The patient died one month later with the diagnosis of anemia, pernicious anemia, multiple cerebrovascular lesions and bone marrow depression (Hgb. 5, Wbc. 800). The relationship of Zyloprim to these events has not been established. There have been a few reports of cataracts found in patients who developed severe dermatitis due to Zyloprim. It is not known whether the cataracts predated the Zyloprim therapy. A case of "toxic" cataracts was reported in one patient who was also receiving an anti-inflammatory agent; again, the onset is unknown. In a group of patients followed by Yu and Gutman for up to 2 years on Zyloprim therapy, no evidence of adverse ophthalmologic effect attributable to Zyloprim was found. In one patient, no such effects have been reported in a few patients on allopurinol.

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...but dose-related pulmonary toxicity and frequent dermatological side effects:

Studies to date indicate that Blenoxane is not an innocuous agent. Pulmonary toxicity occurs as pneumonitis in about 10% of patients and the pneumonitis occasionally progresses to pulmonary fibrosis even when detected in its early stages. Approximately 1% of patients treated have died of pulmonary fibrosis.

In addition, approximately half of the patients will exhibit some dermatological manifestations of therapy with Blenoxane. The skin reactions are usually characterized by erythema or hyperkeratosis—most often on the hands and elbows—and potentially progressive to ulceration.

Consequently, the physician will recognize that the clinical use of an agent such as Blenoxane presupposes a thorough knowledge of its potential applications, pharmacology, toxicity and clinical record—subjects which cannot be adequately reviewed in a communication of this type.

We urge those physicians who anticipate a use for Blenoxane to consult the Bristol Laboratories Blenoxane Monograph, available by mail from Bristol Laboratories or through your Bristol Representative.


Please see next page for Prescribing Information.
**Blenoxane** (sterile bleomycin sulfate)

**2010-04-06**

**September 1973**

**DESCRIP**

**ACTION.** Blenoxane (sterile bleomycin sulfate) is composed of basic cytoxic glycopeptide antibiotics isolated from a strain of Streptomyces verticillus. It is highly soluble in water.

**DESCRIPTION.** Blenoxane is a white to off-white crystalline powder. Each vial contains 200 or 500 units of Bleomycin. (1 unit of Bleomycin consists of 1 mg of pure bleomycin.) The solution is colorless to slightly yellow and may contain a small amount of precipitate on standing.

**INDICATIONS.** Blenoxane should be considered a palliative treatment and/or adjuvant to surgery and radiation therapy. It has been shown to be useful in the management of the following neoplasms:

- Squamous Cell Carcinoma of the head and neck including mouth, tongue, tonsil, naopharynx, oropharynx, sinus, palate, lip, buccal mucosa, gingiva and epiglottis; skin; larynx and paralarynx; penis; cervix; vulva. The response to Blenoxane is poorer in patients with head and neck cancer which has been irradiated previous to Blenoxane therapy.

**Lymphomas** — Hodgkin’s, reticulum cell sarcoma, lymphosarcoma. It is of special note that most of the Hodgkin’s patients treated to date had disseminated disease (Stage IV) no longer treatable by bone marrow depressant agents.

- Testicular Carcinoma — embryonal cell, choriocarcinoma, and teratocarcinoma. Studies to date have revealed that the use of vinblastine sulfate with Blenoxane increases the response rate of testicular tumors.

- Other — Blenoxane has been shown to produce responses in some renal carcinomas, soft tissue sarcomas, and in the prevention of pleural fluid accumulation when administered intraperitoneally.

**CONTRAINdications.** Blenoxane is contraindicated in patients who have a history of a hypersensitivity to it in the past.

**PRECAUTIONS.** Blenoxane should be administered preferentially to patients who are hospitalized and who can be observed carefully and frequently during and after therapy. It should be used with extreme caution in patients with significant impairment of renal function or compromised pulmonary function due to disease other than malignancy.

**To monitor the onset of pulmonary toxicity, roentenograms of the chest should be taken every 1 to 2 weeks. If pulmonary changes are noted, treatment should be discontinued until it can be determined whether the cause is drug related. Pulmonary toxicity due to Blenoxane should be treated with corticosteroids in an effort to prevent progression to pulmonary fibrosis. Infectious pneumonitis should receive appropriate antibiotic therapy.**

**ADVERSE REACTIONS.** Skin — Skin changes were the most frequent side effect occurring in approximately 52.5% of treated patients. These consisted of morbilliform or urticarial, hypotension, thickening, ulceration, redness, hyperkeratosis, nail changes, rash, vesication, tenderness, pruritis, hyperesthesia, peeling, stria, and bleeding. In only 0.2% of treated patients was it necessary to discontinue Blenoxane therapy because of skin toxicity.

**Skin toxicity** was a relatively late manifestation developing usually in the 2nd and 3rd week of treatment. Initial 100 units of Bleomycin (sterile bleomycin sulfate) had been administered and, in general, was related to total cumulutive dose.

**Pulmonary** — This is potentially the most serious side effect, occurring in approximately 10% of treated patients. The most frequent manifestation is pneumonitis occasionally progressing to pulmonary fibrosis which may result in death. Approximately 1% of patients treated died of pulmonary fibrosis. An analysis of the data revealed that pulmonary toxicity is usually less than 4 weeks after age, being more common in patients over 70 years of age receiving over 400 units total dose. However, this toxicity is unpredictable and has been seen occasionally in young patients receiving low doses.

**The identification of patients with pulmonary toxicity due to Blenoxane** has been extremely difficult. The reason for this is the lack of specificity of the clinical syndrome, the x-ray changes and even the tissue changes seen on examination of biopsy and autopsy specimens.

**Blenoxane-induced pneumonitis apparently produces dyspnea** and fine rales that are in no way different from those produced by infectious pneumonias, or the signs and symptoms produced by primary or metastatic lung disease in some patients.

**On x-ray** Blenoxane-induced pneumonitis produces patchy opacities, usually of the lower lung fields, that look the same as infectious bronchopneumonia or even lung metastasis in some patients.

**The microscopic tissue changes due to Blenoxane toxicity** are frequently seen as bronchial squamous metaplasia, reactive macrophages, atypical alveolar epithelial cells, fibrous capillaries, and interstitial fibrosis.

**These microscopic findings are non-specific and are similar to** the changes produced in radiation pneumonitis, pneumoerythemic pneumonitis, and at times reaction to long-standing malignant pulmonary disease.

**Serial pulmonary function tests in 156 patients receiving Blenoxane therapy revealed some demonstrable alteration in approximately 20%.** The most common changes were a decrease in total lung volume and a decrease in vital capacity. However, no predictive correlation between these abnormal findings and the development of pulmonary fibrosis could be ascertained.

**Other** — Fever, chills, nausea, and vomiting were also frequent side effects. Pain at tumor site, phlebitis, and other local reactions were reported infrequently.

**Toxicity** to the renal, hepatic, and CNS may occur at any time after initiation of therapy and, as with any potent drug, these systems should be monitored.

**It is noteworthy that there has been no evidence of bone marrow or immunological depression to date.** This is contrary to the currently available antineoplastic drugs.

**Anorexia and weight loss are common and may persist long after termination of this medication.** These side effects are usually treated with antibiotics. With malignancy, it may be difficult to evaluate the role of Blenoxane.

**DOSAGE.** The following dose schedule is recommended:

- Squamous cell carcinoma, lymphosarcoma, reticulum cell sarcoma, testicular carcinoma — 0.25 to 0.50 units/Kg. (10 to 20 units/M2)

- Hodgkin’s Disease — 0.25 to 0.50 units/Kg. (10 to 20 units/M2) in intravenously or intramuscularly weekly or twice weekly. After a 50% response, the maintenance dose of 1 unit daily or 5 units weekly intravenously or intramuscularly should be given.

**Because of the possibility of anaphylaxis, all lymphoma patients should be started with 5 units or less for the first 2 doses.** If no acute reaction occurs, then the regular dosage schedule may be followed.

**Toxicity of Blenoxane appears to be dose-related with a striking increase when the total dose is over 400 units.** Total doses over 400 units should be given with great caution.

**Hodgkin’s and testicular improvement are prompt and noted within two weeks. If no improvement is seen by the first dose, chances of improvement are very low. Squamous cell carcinoma respond more slowly, sometimes requiring as long as 3 weeks before improvement is noted.**

**ADMINISTRATION.** Blenoxane may be given by the intravenous, intramuscular, intraarterial, or subcutaneous routes.

**Intramuscular** or **Subcutaneous** — Dissolve the contents of a Blenoxane ampule in 1 to 5 ml of Sterile Water for Injection, U.S.P., Sodium Chloride for Injection, U.S.P., 5% Dextrose Injection, U.S.P., or Ringer’s Injection Water for Injection, U.S.P.

**Intravenous or Intra-arterial** — Dissolve the contents of the ampule in 5 ml or more of 5% dextrose solution for injection, saline or physiologic saline or glucose, and administer slowly over a period of ten minutes.

**SUPPLY.** Each ampule contains 15 units of Blenoxane as sterile bleomycin sulfate. **NDC 0015-3010.**
INFORMATION FOR CONTRIBUTORS

SUBMITTING THE MANUSCRIPT

BLOOD, The Journal of Hematology, provides an international forum for the publication of original articles describing basic laboratory and clinical investigations encompassed in the broad discipline of hematology. The scope of the journal covers all aspects of hematology, including disorders of leukocytes, both benign and malignant, erythrocytes, platelets, hemostatic mechanisms, and immunology, as well as major developments in clinical laboratory diagnosis and blood banking.

Manuscripts are accepted for consideration on the condition that they are contributed solely to BLOOD and are critically reviewed by the Editor and outside referees. Acceptance of papers for publication is based upon the originality of the observation or investigation, the quality of the work described, and the clarity of the presentation.

Manuscripts and all communications concerning editorial matters should be addressed to the editor, Dr. Ernst R. Jaffe, Albert Einstein College of Medicine of Yeshiva University, 1300 Morris Park Avenue, Bronx, N.Y. 10461, telephone (212) 430-4040.

Papers reporting human experimentation will be reviewed in accordance with the precepts established in the Helsinki Declaration. Copies of this declaration may be obtained by writing to the American Medical Association, 535 North Dearborn Street, Chicago, Illinois.

PREPARING THE MANUSCRIPT

Manuscripts must be typewritten, double or triple-spaced on good quality 8⅝-by-11-inch white paper with margins of at least one inch. Please do not use erasable bond. The original and one complete copy of the manuscript must be submitted.

The first page of the manuscript should contain the following information: (1) title of the paper; (2) authors' names; (3) name of institution in which work was done; (4) acknowledgments for research support; (5) name and address of the author to whom communications regarding the manuscript should be directed.

The second page should contain an abstract of 200 words or less, summarizing the reason for the study, the methods used, the results, and the major conclusions. Do not include a summary at the end of the paper. The remainder of the paper should be written as concisely as possible.

PREPARING ILLUSTRATIONS AND TABLES

Tables and illustrations must be cited in order in the text using arabic numerals. All line drawings should be submitted as clear, glossy, black and white photographs. Legible copies may be used with the duplicate manuscript. Photomicrographs and other photographic illustrations must be submitted in duplicate; copies are not acceptable. Legends for illustrations should be typewritten, double-spaced, on a separate sheet, and included at the end of the manuscript. A legend must accompany each illustration. Contributors will pay all charges involved in processing and printing of color photographs.

Each table should be typed on a separate sheet and appropriately numbered. Legends should be typed on the same sheets as the tables. Tables in excess of one and one-half printed pages will be charged for at approximately $80.00 per page.

REFERENCES

References should be compiled at the end of the article according to the order of citation in the text. They should be typewritten, double-spaced under the heading REFERENCES. Abbreviations for titles of medical periodicals should conform to those used in the latest edition of Index Medicus. (A “List of Journals Indexed in Index Medicus”—with abbreviations—is obtainable from the Superintendent of Documents, U. S. Government Printing Office, Washington, D.C. 20402, at a modest charge.)

(Continued on following page)
EXAMPLES OF REFERENCES

Journal article, one author:

Journal article, two or more authors:

Journal article, in press:

Complete book:

Chapter of book:

Chapter of book that is part of published meeting:

Chapter of book that is part of unpublished meeting:

PROOFREADING

Contributors are provided with galley proofs and are asked to proofread them for typesetting errors. Important changes in data are allowed, but authors will be charged for excessive alterations in proof. Galley proofs should be returned within 48 hours.

REPRINTS

Reprints of articles will be furnished to contributors when ordered in advance of publication. An order form, showing cost of reprints, is sent with proofs. Individuals wishing to obtain reprints of an article that appeared in BLOOD can do so by contacting the author at the address given in the journal.

LETTERS TO THE EDITOR

Letters to the Editor are welcomed and will be published if appropriate. They should be typewritten, double-spaced, and, generally, should not be more than two typewritten pages in length.

ANNOUNCEMENTS

Announcements of meetings, conferences, and the like, which are of interest to the readership of BLOOD should be sent to the Editor at least three months before the first day of the month of issue. These items should be as concise as possible.

RECOMMENDATION FOR USAGE OF UNITS

The International Committee for Standardization in Hematology has recommended that the following units be used in the hematologic literature.

<table>
<thead>
<tr>
<th>Component</th>
<th>Normal Range in SI Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemoglobin</td>
<td>14.4 g/dl*,†</td>
</tr>
<tr>
<td>RBC (RCC)</td>
<td>$4.5 \times 10^{12}$/†</td>
</tr>
<tr>
<td>PCV</td>
<td>0.41*†</td>
</tr>
<tr>
<td>MCV</td>
<td>75-95 fl</td>
</tr>
<tr>
<td>MCH</td>
<td>27-32 pg</td>
</tr>
<tr>
<td>MCHC</td>
<td>30-35 g/dl</td>
</tr>
<tr>
<td>WBC (WCC)</td>
<td>4.0-11.0 $\times 10^9$/l</td>
</tr>
<tr>
<td>Platelets</td>
<td>150-400 $\times 10^9$/l</td>
</tr>
<tr>
<td>Red cell diameter</td>
<td>6.7-7.7 μm</td>
</tr>
<tr>
<td>Reticulocytes</td>
<td>0.2-2.0%</td>
</tr>
<tr>
<td>Serum iron</td>
<td>14-29 μmol/l</td>
</tr>
<tr>
<td>Total iron binding capacity</td>
<td>45-72 μmol/l</td>
</tr>
<tr>
<td>Transferrin</td>
<td>1.2-2.0 g/l</td>
</tr>
<tr>
<td>Serum haptoglobins (Hb binding)</td>
<td>0.3-2.0 g/l</td>
</tr>
<tr>
<td>Serum B₁₂</td>
<td>160-925 ng/l</td>
</tr>
<tr>
<td>(as cyanocobalamin)</td>
<td></td>
</tr>
<tr>
<td>Serum folate</td>
<td>3-20 μg/l</td>
</tr>
<tr>
<td>Plasma fibrinogen</td>
<td>1.5-4.0 g/l</td>
</tr>
</tbody>
</table>

* As the normal range varies with age and sex, only one measurement in the normal range has been given as an example.
† dl, deciliter.
(3) No unit necessary; /l is implied.
§ Fl = femtoliter.
*Calculated from the molecular weight of iron (55.95).
Saunders' Sources in Hematology . . .

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