

## APPENDIX A: UNION AND CONFEDERATE STANDARD SUPPLY TABLES

---

Table A.1.  
*U.S. Army Standard Supplies for Field Service*

<i>Articles</i>	<i>In Medicine Wagon</i>	<i>In Army Wagon</i>
Acaciæ	Oz. 8	
Acid sulphuricum aromat.	" 8	
" tannic	" 1	
Acid tartaricum	" 8	
Æther sulphuric	" 32	Oz. 32
" spirit: comp.	" 16	" 16
" spirit nitrici	" 32	" 32
Alcohol	Botts. 12	
Alumen	Oz. 8	
Ammoniaë carbonas	" 8	
" liquor	" 32	Oz. 64
" spirit: aromat.	" 4	" 16
Argenti nitras	" 1	
" " fusum	" 1	
Bismuth subnitras	" 16	
Camphora	" 8	
Cantharides ceratum	" 8	
Capsici pulvis	" 8	
Cera alba	" 4	
Ceratum adipis	Lbs. 3	Lbs. 4
" resinæ	" 1	
Cinchonæ sulphas	Oz. 24	
Chloroformum (in 8 oz. bottles)	" 32	Oz. 192
Collodium	" 1	
Copiaba	" 32	
Creosotum	" 4	
Cupri sulphas	" 2	
Extractum aconiti rad: fluidum	" 4	
" belladonnæ	" 1	
" cinchonæ fluidum	" 16	
" colchici sem: fluid:	" 4	
" colocynthidis comp.	" 8	

<i>Articles</i>	<i>In Medicine Wagon</i>	<i>In Army Wagon</i>
" ipecacuanhæ fluid	" 8	
" senegæ fluid	" 8	
" zingiberis fluid	" 16	
Ferri chloridi tinctura	" 8	Oz. 16
" et quiniæ citras	" 1	
" persulphatis liquor	" 4	
" " pulvis	" 1	" 16
Glycerina	" 8	
Hydrargyri pilulæ	" 8	" 16
" unguentum	Lb. 1	
" " nitratis	Oz. 4	
Hydrargyrum c. creta	" 8	
Iodium	" 2	
Ipecachuanæ et opii pulvis	" 8	" 48
Ipecachuanæ pulvis	Oz. 8	
Lini pulvis	Lbs. 8	
Magnesiæ sulphas	" 8	Lbs. 16
Morphiæ "	Oz. ½	" 4
Oleum olivæ (in 32 oz. bottles)	Botts. 2	Botts. 4
" ricini " " " "	" 4	" 4
" terebinthinæ	" 1	
" tiglii	Oz. 1	
Opii pulvis	" 8	Oz. 16
" tinctura	" 16	
" " camphorata	" 16	Oz. 32
Pilulæ camphoræ (gr. 2) et opii (gr. 1)	Doz. 8	Doz. 8
" cathart: comp.	" 8	" 24
" opii	" 8	" 24
Plumbi acetas	Oz. 8	Oz. 32
Potassæ arsenitis liquor	" 8	
" bicarbonas	" 8	
" chloras	" 8	Oz. 32
" permanganas (crystals)	" 2	
Potassii iodidum	" 8	" 32
Quinæ sulphas	" 10	" 48
" " (in pills, 3 grs. each)	Doz. 8	Doz. 24
Sapo	Lbs. 8	Lbs. 4
Scillæ syrupus	" 4	" 4
Sinapis nigræ pulvis	" 6	" 6
Sodæ chlorinat: liq. (in one pound bottles)	" 1	" 6

<i>Articles</i>	<i>In Medicine Wagon</i>	<i>In Army Wagon</i>
" bicarbonas	Oz. 8	Oz. 64
" et potassæ tartras	" 16	
Spiritus frumenti	Botts. 24	Botts. 24
" vini gallici	" 6	" 24
Sulphur		Oz. 32
Zinci chloridii liquor	Oz. 16	" 96
" sulphas	" 2	

Source: "Standard Supply Table for Field Service," in Charles R. Greenleaf, A Manual for Medical Officers of the United States Army (Philadelphia: J. B. Lippincott, 1864), pp. 143-44.

Table A.2.  
U.S. Army Knapsack

Castor Oil	1 quart	Zinci Sulphate (Squibb's)	1 oz.
Cerati Simplicis	1 lb.	Argenti Nitr. Fused. (Squibb's)	¼ oz.
Chloroform (Squibb's)	4 oz.	Alum. (Squibb's)	2 oz.
Extract of Ipecac Fluid	4 oz.	Emp. Ichthyocollæ (w/ meds. 17 lbs.)	2 yds.
Pills Cathartic Comp.	4 doz.	Emp. Adhesivi	2 yds.
Pills Mass. Hydr. 5 grs.	2 doz.	Lint.	½ lb.
Pills Opii.	2 doz.	Sponge	2 pieces
Pills Opii. Gr. i. & Camphor gr. ii	4 doz.	Bandages (assorted)	4 doz.
Pills Quiniæ Sulphate gr. iij.	4 doz.	Flannel	2 yds.
Potass. Iodidi.	1 oz.	Binder's Boards (4" × 18")	4 ea.
Quinæ Sulphate	½ oz.	Field Tourniquet	1 ea.
Spirits Ether Comp. (Squibb's)	4 oz.	Lead Pencils	2 ea.
Spirits Terebinth.	4 oz.	Note Paper	1 qr.
Tinct. Opii.	4 oz.	Pins	1 paper
Tinct. Opii. Camph.	4 oz.	Tape (pressure sensitive)	1 ea.

Note: *The knapsack weighed eighteen pounds fully loaded. See Frank Hastings Hamilton, A Practical Treatise on Military Surgery (New York: Baillière Brothers, 1861), p. 116.*

Table A.3.  
*The U.S. Army Standard Supply Table for General Hospitals (allowance for three months)*

<i>Articles</i>	<i>100 beds</i>	<i>200 beds</i>	<i>300 beds</i>	<i>400 beds</i>	<i>500 beds</i>	<i>1,000 beds</i>
Acaciæ Pulvis, in ½ lb. bottles (oz.)	32	56	80	104	128	232
Acidum Aceticum, in ½ g. s. bottles (oz.)	8	16	24	32	40	72
Acidum Citricum, in ½ lb. bottles (oz.)	16	32	48	56	64	120
Acidum Muriaticum, in ½ lb. g. s. bottles (oz.)	2	2	3	3	4	7
Acidum Nitricum, in ½ lb. g. s. bottles (oz.)	8	16	16	24	32	56
Acidum Phosphoricum Dilutum, in 2 oz. g. s. bottles (oz.)	2	2	3	3	4	7
Acidum Sulphuricum, in ½ lb. g. s. bottles (oz.)	8	8	16	16	24	40
Acidum Aromaticum, in ½ lb. g. s. bottles (oz.)	16	32	48	56	64	120
Acidum Tannicum, in 1 oz. bottles (oz.)	4	6	8	10	12	22
Acidum Tartaricum, in 8 oz. bottles (oz.)	32	56	80	104	128	232
Æther Fortoir, in ½ lb. g. s. bottles and ½ lb. tins, soldered (lb.)	64	112	160	208	256	464
Ætheris Spiritus Compositus, in ½ lb. g. s. bottles (oz.)	16	32	48	56	64	120
Ætheris Nitrici, in ½ lb. g. s. bottles (oz.)	48	96	144	176	208	384
Alcohol Fortius, in 32 oz. bottles (bottles)	24	36	48	60	72	144
Aloes Pulvis, in 2 oz. bottles (oz.)	2	4	6	6	8	14
Alumen, in ½ lb. bottles (oz.)	16	32	40	48	56	104
Ammoniæ Carbonas, in ½ lb. bottles (oz.)	16	32	40	48	64	112
Ammoniæ Liquor, in ½ lb. g. s. (oz.)	96	164	224	288	352	640
Ammoniæ Murias, in ½ lb. bottles (oz.)	8	16	24	32	40	72
Ammoniæ Spiritus Aromaticus, in 4 oz. g. s. bottles (oz.)	4	8	12	16	20	38
Argenti Nitras, in 1 oz. g. s. bottles (oz.)	2	3	4	5	6	11
Argenti Fusum, in 1 oz. bottles (oz.)	2	3	4	5	6	11
Arsenitis Potassæ Liquor, in 4 oz. bottles (oz.)	4	8	12	16	20	36
Asafœtida, in 4 oz. bottles (oz.)	4	8	12	16	16	32
Bismuthi Subcarbonas, in 2 oz. bottles (oz.)	2	4	6	8	10	18
Camphora, in 8 oz. bottles (oz.)	8	16	24	32	40	72
Cantharidis Pulvis, in 2 oz. bottles (oz.)	2	2	2	4	4	8

<i>Articles</i>	<i>100 beds</i>	<i>200 beds</i>	<i>300 beds</i>	<i>400 beds</i>	<i>500 beds</i>	<i>1,000 beds</i>
Cantharidis Ceratum, in 8 oz. tins (oz.)	24	40	56	72	88	160
Capsici Pulvis, in 8 oz. bottles (oz.)	8	16	24	24	32	56
Catechu, in 8 oz. bottles (oz.)	8	16	24	24	32	56
Cera Alba in paper (oz.)	32	32	48	48	64	112
Ceratum Adipis, in 1 lb. pots (lbs.)	10	18	26	32	40	72
Ceratum Resinæ, in 1 lb. pots (lbs.)	2	4	5	6	8	14
Cinchonæ Calisayæ Pulvis, in ½ lb. bottles (oz.)	16	24	32	40	48	88
Cinchonæ Sulphas, in 2 oz. bottles (oz.)	40	50	60	70	80	150
Chlorinium (the materials for preparing) in a package (no.)	1	2	3	4	5	9
Chloroformum, in ½ lb. g. s. bottles and ½ lb. tins (oz.)	32	64	80	96	112	208
Collodium, in 1 oz. bottles (oz.)	2	3	4	5	6	11
Copaiba, in 1 lb. bottles (oz.)	64	96	102	128	144	272
Creasotum, in 2 oz. g. s. bottles (oz.)	4	6	8	10	12	22
Creta Præparata, in ½ lb. bottles (oz.)	16	24	32	40	48	88
Cubebæ Oleo-resina (ex. Cubebæ Fl. U.S.P., 1850) in 8 oz. g. s. bottles (oz.)	8	16	24	32	40	72
Cupri Sulphas, in 2 oz. bottles (oz.)	2	4	6	8	10	18
Extractum Aconiti Radicis Fluidum, in ½ bottles (oz.)	8	16	24	32	40	72
Extractum Belladonnæ, in 1 oz. pots (oz.)	1	2	3	4	5	9
Extractum Buchu Fluidum, in ½ lb. bottles (oz.)	16	24	32	40	48	88
Extractum Cinchonæ Fluidum, (with aromatics) in ½lb. bottles (oz.)	16	32	48	56	64	120
Extractum Colchici Seminis Fluidum, in 4 oz. bottles (oz.)	8	12	16	20	24	44
Extractum Colocynthis Compositum, in 8 oz. pots (oz.)	8	16	24	32	32	64
Extractum Conii, in 1 oz. pots (oz.)	1	2	3	4	5	9
Extractum Ergotæ Fluidum, in 2 oz. bottles (oz.)	2	4	6	8	8	16
Extractum Gentianæ Fluidum, in ½ oz. bottles (oz.)	16	32	48	64	80	144
Extractum Glycyrrhizæ, in paper (oz.)	64	96	128	160	192	352
Extractum Hyoscyami, in 1 oz. pots (oz.)	1	2	3	4	5	9

<i>Articles</i>	<i>100 beds</i>	<i>200 beds</i>	<i>300 beds</i>	<i>400 beds</i>	<i>500 beds</i>	<i>1,000 beds</i>
Extractum Ipecacuanhæ Fluidum, in ½ lb. bottles (oz.)	8	16	24	32	40	72
Extractum Nucis Vomicae, in 1 oz. pots (oz.)	1	2	3	4	5	9
Extractum Pruni Virginianæ Fluidum, in ½ lb. bottles (oz.)	8	16	24	32	40	72
Extractum Rhei Fluidum, in ½ lb. bottles (oz.)	8	16	24	32	40	72
Extractum Senegæ Fluidum, in ½ lb. bottles (oz.)	8	16	24	32	40	72
Extractum Spigeliæ Fluidum, in ½ lb. bottles (oz.)	8	16	16	24	24	48
Extractum Valerianæ Fluidum, in ½ lb. bottles (oz.)	8	16	24	32	40	72
Extractum Veratri Viridis Fluidum, in 2 oz. bottles (oz.)	2	4	6	6	8	14
Extractum Zingiberis Fluidum, in ½ lb. bottles (oz.)	16	24	32	40	48	88
Ferri Chloridi Tinctura, in ½ g. s. bottles (oz.)	16	32	48	56	64	120
Ferri Iodidi Syrupus, in ½ lb. g. s. bottles (oz.)	16	24	24	32	32	64
Ferri Et Quiniæ Citras, in 1 oz. bottles (oz.)	4	6	8	10	12	22
Ferri Persulphatis Liquor, in 4 oz. g. s. bottles (oz.)	4	8	12	16	20	36
Ferri Pulvis, in 1 oz. g. s. bottles (oz.)	1	2	8	4	5	9
Ferri Sulphas, in 4 oz. bottles (oz.)	4	4	8	8	12	20
Ferri Oxidum Hydratum (the material for) in package (no.)	1	1	1	1	1	2
Glycyrrhizæ Pulvis, in ½ oz. bottles (oz.)	8	16	24	32	32	64
Glycerina (pure and inodorous), in ½ lb. g. s. bottles (oz.)	16	24	32	40	40	80
Hydrargyri Chloridum Corrosivum, in 1 oz. g. s. bottles (oz.)	1	2	2	3	3	6
Hydrargyri Iodidum Flavum, in 1 oz. bottles (oz.)	1	1	2	2	2	4
Hydrargyri Oxidum Rubrum, in 1 oz. bottles (oz.)	1	1	2	2	3	4
Hydrargyri Pilulæ, in 8 oz. pots (oz.)	8	16	24	32	40	72
Hydrargyri Unguentum, in 1 lb. pots (lb.)	1	2	3	4	4	8

<i>Articles</i>	<i>100 beds</i>	<i>200 beds</i>	<i>300 beds</i>	<i>400 beds</i>	<i>500 beds</i>	<i>1,000 beds</i>
Hydrargyri Nitratis, in 4 oz. pots (oz.)	4	8	8	12	16	28
Iodinium, in 1 oz. g. s. bottles (oz.)	4	6	6	8	8	16
Ipecacuanhæ Pulvis, in ½ oz. bottles (oz.)	8	16	16	24	24	48
Ipecacuanhæ Pulvis et Opii Pulvis, in ¼ lb. bottles (oz.)	8	16	24	32	40	72
Linum, in tins (lb.)	6	12	18	24	30	54
Lini Pulvis, in tins (lb.)	16	32	48	48	56	104
Magnesia, in 4 oz. bottles (oz.)	8	16	16	20	24	44
Magnesia Sulphas, in ½ oz. papers and 8 lb. tins (lbs.)	16	24	32	40	48	88
Morphæ Sulphas in ¼ oz. bottles (oz.)	½	½	¾	1	1¼	2¼
Oleum Cinnamomi, in 1 oz. g. s. bottles (oz.)	1	1	2	2	3	5
Olei Menthæ Piperitæ Tinctura, in ½ lb. bottles (oz.)	16	24	32	40	48	88
Oleum Morrhuæ, in 32 oz. bottles (bottles)	10	15	20	25	30	55
Oleum Olivæ, in 32 oz. bottles (bottles)	4	8	12	16	20	36
Oleum Ricini, in 32 oz. bottles (bottles)	8	12	16	20	24	44
Oleum Terebinthinæ, in 32 oz. bottles (bottles)	2	4	6	8	10	18
Oleum Tiglii, in 1 oz. g. s. bottles (oz.)	1	1	2	2	3	5
Opii Pulvis, in ½ lb. bottles (oz.)	8	16	16	24	24	48
Opii Tinctura, in ½ lb. bottles (oz.)	16	32	48	56	64	120
Opii Camphorata, in ½ lb. bottles (oz.)	16	32	48	56	64	120
Pilulæ Catharticæ Comp., in g. s. bottles (doz.)	6	16	24	32	40	72
Plumbi Acetas, in ½ lb. bottles (oz.)	6	16	24	32	40	72
Podophyll Resini, in 1 oz. bottles (oz.)	1	1	2	2	3	5
Potassæ Acetas, in ½ lb. bottles (oz.)	8	16	24	32	40	72
Potassæ Bicarbonas, in ½ lb. bottles (oz.)	8	16	24	32	40	72
Potassæ Bitartras, in ½ lb. bottles (oz.)	16	32	32	48	48	96
Potassæ Chloras, in ½ lb. bottles (oz.)	16	32	32	48	48	96
Potassæ Nitras, in ½ lb. bottles (oz.)	8	8	16	16	24	40
Potassii Iodidum, in ½ lb bottles (oz.)	24	48	64	80	96	176
Quinæ Sulphas, compressed in 5 oz. tins (oz.)	20	30	40	50	60	110
Rheum (oz.)	4	4	4	8	16	4
Rhei Pulvis, in 4 oz. bottles (oz.)	4	8	12	16	16	32

<i>Articles</i>	<i>100 beds</i>	<i>200 beds</i>	<i>300 beds</i>	<i>400 beds</i>	<i>500 beds</i>	<i>1,000 beds</i>
Sapo, in paper (lbs.)	8	12	16	20	24	44
Scillæ Pulvis, in 1 oz. bottles (oz.)	4	4	6	6	8	14
Scillæ Syrupus, in 1 lb. bottles (oz.)	8	14	20	26	42	58
Sinapis Nigræ Pulvis, in 6 lb. tins (lbs.)	6	12	18	18	24	42
Sodæ Chlorinatæ Liquor, in 1 lb. g. s. bottles (lbs.)	6	9	12	15	15	30
Sodæ Bicarbonas, in ½ lb. bottles (oz.)	16	32	40	48	56	104
Sodæ Boras, in ½ lb. bottles (oz.)	8	16	16	24	24	48
Sodæ et Potassæ Tartras, in ½ lb. bottles (oz.)	32	64	64	80	96	176
Spiritus Lavandulæ Comp., in ½ lb. bottles (oz.)	16	24	32	40	48	88
Spiritus Frumenti, in 32 oz. bottles (bottles)	72	120	168	216	264	480
Spiritus Vini Gallici, in 32 oz. bottles (bottles)	12	24	24	36	36	72
Sulphur, in ½ lb. bottles (oz.)	16	24	32	40	48	88
Strychnia, in ⅛ oz. bottles (oz.)	⅛	⅛	¼	¼	¼	½
Vinum Acetas, in 1 oz. bottles (bottles)	24	36	48	60	72	132
Zinci Acetas, in 1 oz. bottles (oz.)	2	4	5	6	7	13
Zinci Carbonas, in 1 oz. bottles (oz.)	1	2	3	4	5	9
Zinci Chloridi Liquor, in 1 lb. g. s. bottles (oz.)	48	80	96	112	128	240
Zinci Sulphas, in 1 oz. bottles (oz.)	2	4	5	6	7	13

Note: "The Confederate Supply Table for Hospitals" was roughly equivalent but did have some variations; see J. Julian Chisolm, *A Manual of Military Surgery* (Richmond, VA: West and Johnson, 1861), pp. 397–404.

Source: "Standard Supply Table," in William Grace, *The Army Surgeon's Manual* (New York: Baillière Brothers, 1864), pp. 128–30.

Table A.4.  
C.S.A. *Standard Supply Table of the Indigenous Remedies for  
Field Service and the Sick in General Hospitals*

SURGEON GENERAL'S OFFICE, Richmond, Va., March 1, 1863.

*The articles of this Supply Table are intended as adjuncts to, or substitutes for those of the original Supply Tables of the Regulations for the Medical Department.*

*When the articles of the original Supply Tables cannot be procured from the Purveyors, or when they are deficient in quantity, Medical Officers are instructed to make requisition for such indigenous preparations from the following table as will supply the deficiencies.*

*The interests of the government which they serve, and the importance of relying upon the internal resources of their own country, should prompt the adoption, as far as practicable, of these remedies as substitutes for articles which now can be obtained only by importation.*

*As much care has been taken in the collection and preparation of these remedies, in order that they might be recommended in form as well as quality, it is hoped that Medical Officers will lay aside all prejudice which may exist in their minds against their use, and will give them a fair opportunity for the exhibition of those remedial virtues which they certainly possess.*

*Much reliable information on this subject may be obtained from the work on Medical Botany, entitled "Resources of the Southern Fields and Forests," prepared by Surgeon F. P. Porcher, P.A.C.S., under instructions from this office.*

S. P. MOORE, Surgeon General C. S. A.

**Articles/Quantities for One Year, for Commands of 500 Men in the Field,  
or 100 Sick in General Hospital**

<i>Botanical Names</i>	<i>Common Names</i>	<i>Medical Properties</i>	<i>Dose</i>	<i>Form for Issue</i>	<i>Quantities</i>
Asclepias tuberosa,	Pleurisy root, or butterfly weed,	Diaphoretic; in decoction,	1 teacupful,	Rad.	1[lb.] 8[oz.]
Acorus calamus,	Calamus,	Aromatic, stimulant and stomachic,	10 to 20 grs.	Pulv.	1 [lb.] 0 [oz.]
Acorus calamus,	Calamus,	Aromatic, stimulant and stomachic,	1 fl. drachm,	Fl. ext.	1[lb.] 0[oz.]
Aristolochia serpentaria,	Virginia snake root,	Stimulant, tonic and diaphoretic; in infusion,	1 or 2 ozs.	Rad.	2[lb.] 8[oz.]
Arum tryphillum,	Wake robin, or indian turnip,	Expectorant; stim. to gland, system, lungs and skin; in emulsion,	10 grs.	Pulv.	1[lb.] 0[oz.]
Asarum canadense,	Wild ginger,	Aromat. stimulant, tonic and diaphoretic,	20 to 30 grs.	Pulv.	1[lb.] 0[oz.]
Asarum canadense,	Wild ginger,	Aromat. stimulant, tonic and diaphoretic,	½ to 1 fl. drachm,	Fl. ext.	1[lb.] 8[oz.]

<i>Botanical Names</i>	<i>Common Names</i>	<i>Medical Properties</i>	<i>Dose</i>	<i>Form for Issue</i>	<i>Quantities</i>
Asclepias tuberosa,	Do. Do.	Expectorant,	20 to 60 grs.	Pulv.	1[lb.] 8[oz.]
Capsicum,	Pepper,	External irritant,	—	Pod,	4[lb.] 0[oz.]
Capsicum,	Pepper,	Stim. stomachic; in gargles,	½ to 2 drachms,	Tinct.	2[lb.] 0[oz.]
Cassia marilandica,	American senna,	Cathartic; in infusion,	1 to 3 ounces,	Fol.	1[lb.] 8[oz.]
Cassia marilandica,	American senna,	Cathartic; in infusion,	1 to 4 drachms,	Fl. ext.	4[lb.] 0[oz.]
Chenopodium anthelminticum,	Worm seed,	Anthelmintic, in emulsion with ol. ricini,	—	Sem.	1[lb.] 0[oz.]
Chimaphila (cont.) umbellata,	Pipsisseway,	Diuretic; in decoction,	1 pt./24 hours	—	2[lb.] 0[oz.]
Conium maculatum	Hemlock,	Narcotic and sedative,	2 to 3 grs.	Solid ext.	0[lb.] 4[oz.]
Cornus florida,	Dogwood,	Tonic, astringent,	20 to 60 grs.	Pulv.	—
Cornus florida,	Dogwood,	Tonic, astringent, in decoction,	2 fl. ounces,	Cort.	40[lb.] 0[oz.]
Cornus florida,	Dogwood,	Tonic, astringent,	10 to 30 grs.	Solid ext.	0[lb.] 4[oz.]
Cornus florida,	Dogwood,	Tonic, astringent,	1 fl. drachm,	Co. fl. ext.	3[lb.] 0[oz.]
Cucurbita citrullus,	Watermelon,	Diuretic; in infusion,	Ad libitum,	Sem.	8[lb.] 0[oz.]
Cucurbita pepo,	Pumpkin,	Anthelmintic; in emulsion,	2 ounces,	Sem.	1[lb.] 0[oz.]
Cytisus scoparius,	Scotch broom,	Diuretic; in decoction,	½ to 1 pt. during 24 hours,	—	4[lb.] 0[oz.]
Datura stramonium,	Jamestown weed,	Narcotic; anti- spasmodic and anodyne; tinct. and infusion as local application,	—	Fol.	4[lb.] 0[oz.]
Datura stramonium,	Jamestown weed,	Internally (local applic. also for ung. stramorium),	¼ to ½ grain,	Solid ext.	0[lb.] 2[oz.]
Diospyros virginiana,	Persimmon,	Tonic; in comp. infusions, and gargles,	—	Cort.	8[lb.] 0[oz.]

<i>Botanical Names</i>	<i>Common Names</i>	<i>Medical Properties</i>	<i>Dose</i>	<i>Form for Issue</i>	<i>Quantities</i>
Diospyros virginiana,	Persimmon,	Astringent,	½ to 1 drachm,	Tinct.	
Diospyros virginiana,	Persimmon,	Astringent,	10 to 30 grs.	Pulv.	2[lb.] 0[oz.]
Erigeron philadelphicum,	Fleabane,	Diuretic; in infusion,	1 pint during 24 hours,		
Erigeron philadelphicum canadense,	Fleabane,	Diuretic; in infusion, and astringent; in infusion,	2 to 4 fl. ozs.	Plant,	4[lb.] 0[oz.]
Erigeron philadelphicum canadense,	Fleabane,	Styptic,	—	Oil,	0[lb.] 2[oz.]
Eupatorium perfoliatum,	Boneset,	Tonic. diaphoretic; in infusion,	2 to 4 fl. ozs.	Herb,	15[lb.] 0[oz.]
Euphorbia ipecacuanha,	Ipecacuanha spurge,	Emetic,	15 grs.	—	—
Euphorbia ipecacuanha corollata,	Large flowery	Diaphoretic,	5 grs.	Rad.	2[lb.] 8[oz.]
Frasera walteri,	American columbo,	Tonic; in infusion,	1 to 2 fl. ozs.	Rad.	7[lb.] 8[oz.]
Gaultheria procumbens,	Partridge berry, or spicy wintergreen,	Stim. aromatic,	—	Oil,	0 1
Geranium maculatum,	Cranesbill,	Astringent; in decoction,	1 to 2 fl. ozs.	Rad.	10 [lb.] 0[oz.]
Geranium maculatum,	Cranesbill,	Astringent; in decoction,	10 to 15 grs.	Solid ext.	2[lb.] 0[oz.]
Gentian catesbei,	American gentian,	Tonic; in comp. infusion,	1 to 3 fl. ozs.	Rad.	5[lb.] 0[oz.]
Gentian catesbei	American gentian,	Tonic; in comp. infusion,	10 to 30 grs.	Solid ext.	4[lb.] 0[oz.]
Gillenia trifoliata; or gillenia stipulacea,	Indian physic,	Emetic,	20 to 30 grs.	Pulv.	2[lb.] 0[oz.]
Humulus lupulus,	Hop,	Tonic, hypnotic; in infusion,	2 fl ozs.	—	10[lb.] 0[oz.]
Humulus lupulus,	Hop,	Tonic, hypnotic; in infusion,	1 to 3 drachms,	Tinct.	1[lb.] 0[oz.]
Hyosciamus niger,	Henbane,	Anodyne, soporific,	1 to 3 grs.	Solid ext.	0[lb.] 8[oz.]

<i>Botanical Names</i>	<i>Common Names</i>	<i>Medical Properties</i>	<i>Dose</i>	<i>Form for Issue</i>	<i>Quantities</i>
Hyosciamus niger,	Henbane,	Anodyne, soporific,	1 fl. drachm,	Tinct.	2[lb.] 0[oz.]
Juglans cinerea,	Butternut,	Aperient, cathartic,	20 to 30 grs.	Solid ext.	1[lb.] 0[oz.]
Juniper communis,	Juniper,	Stim. diuretic; in infusion,	1 pint during 24 hours,	Berry,	0[lb.] 8[oz.]
Laurus sassafras,	Sassafras,	Stim. Aromatic; adjunct to infusions,	—	Cort.	3[lb.] 0[oz.]
Laurus sassafras,	Sassafras,	Demulcent,	—	Pith,	0[lb.] 8[oz.]
Laurus sassafras,	Sassafras,	Stim. carminative,	2 to 10 drops,	Oil	0[lb.] 2[oz.]
Lavandula,	Lavender,	Stim. aromatic,	30 to 60 drops,	Comp. spts.	2[lb.] 8[oz.]
Leontodon taraxacum,	Dandelion,	Alterative,	1 fl. drachm,	Fl ext.	4[lb.] 0[oz.]
Liriodendron tulipifera,	Tulip tree,	Stim. Tonic, diaphoretic,	½ to 2 drachms,	Pulv.	10[lb.] 0[oz.]
Liriodendron tulipifera,	Tulip tree,	Stim. Tonic, diaphoretic,	1 to 3 fl. drachms,	Co. fl. ext.	2[lb.] 0[oz.]
Lobelia inflata,	Lobelia,	Expectorant,	1 to 2 fl. drachms,	Tinct.	0[lb.] 8[oz.]
Mentha piperita,	Peppermint,	Arom, stim. and anti-spasmodic.	1 to 3 drops,	Oil,	8[lb.] 0[oz.]
Mentha viridis,	Mint,	“ in infusion,	Ad libitum,	Herb,	2[lb.] 0[oz.]
Monarda punctata,	Horsemint,	Stim. carminative; also adjunct to liniments; internally,	2 to 3 drops,	Oil,	0[lb.] 4[oz.]
Panax quinquefolium,	Ginseng,	Demulcent,	—	Pulv.	2[lb.] 0[oz.]
Papaver,	Poppy,	Anodyne; local application,	—	Heads,	2[lb.] 0[oz.]
Phytolacca decandra,	Poke root,	Alterative; for other uses, see Dispensatory,	1 to 5 grs.	Pulv.	2[lb.] 0[oz.]
Pinckneya pubens,	Georgia bark,	Tonic and antiperiodic; in infusion,	2 to 3 fl. ozs.	Cort.	10[lb.] 0[oz.]
Pinckneya pubens,	Georgia bark,	Tonic and antiperiodic; in infusion,	1 drachm,	Pulv.	2[lb.] 0[oz.]

<i>Botanical Names</i>	<i>Common Names</i>	<i>Medical Properties</i>	<i>Dose</i>	<i>Form for Issue</i>	<i>Quantities</i>
Podophyllum peltatum,	May apple,	Cathartic,	5 to 15 grs.	Solid ext.	1[lb.] 0[oz.]
Polygala senega,	Seneka snake root,	Stim. and expectorant; in decoction,	2 fl. ozs.	Rad.	2[lb.] 6[oz.]
Polygala senega,	Seneka snake root,	Stim. and expectorant; in decoction,	1 fl. drachm,	Syrup,	4[lb.] 0[oz.]
Prunus virginiana,	Wild cherry,	Tonic and sedative; in infusion,	1 to 3 fl. ozs.	Cort.	12[lb.] 0[oz.]
Prunus virginiana,	Wild cherry,	Tonic and sedative; in infusion,	½ fl. oz.	Syrup,	4[lb.] 0[oz.]
Quercus alba,	White oak,	Tonic; local application, fomentation, gargle, &c.	—	—	—
Quercus alba,	White oak,	Astringent; in decoction,	—	Cort.	8[lb.] 0[oz.]
Quercus alba,	White oak,	Astringent; in decoction,	½ to 1 drachm,	Pulv.	4[lb.] 0[oz.]
Rhus glabra,	Sumach,	Astringent; infusion a cooling refrigerant drink in fevers; for gargles.	—	Berries.	8[lb.] 0[oz.]
Rubus villosus, or rubus trivialis,	Blackberry, or dewberry,	Tonic, astringent; in decoction,	½ to 2 fl. ozs.	Rad.	4[lb.] 0[oz.]
Do. do.	Do.	Tonic, astringent; in decoction,	1 fl. drachm,	Comp. syr.	4[lb.] 0[oz.]
Sabbatia angularis,	American centaury,	Tonic, in infusion,	2 fl. ozs.	Herb.	6[lb.] 0[oz.]
Salix alba,	White willow,	Tonic, astringent; in decoction,	2 fl. ozs.	Cort.	7[lb.] 8[oz.]
Salvia,	Sage,	Tonic, for gargles, &c.	—	Fol.	5[lb.] 0[oz.]
Sanguinaria canadensis,	Puccoon or blood root,	Stim. expectorant, alterative,	1 fl. drachm,	Tinct.	2[lb.] 0[oz.]
Sarsaparilla, [Aralia spp.?	Sarsaparilla,	Alterative,	1 fl. drachm,	Fl. ext.	6[lb.] 0[oz.]
Sesamum indicum,	Bene plant,	Demulcent; in infusion,	Ad libitum,	Fol.	4[lb.] 0[oz.]

<i>Botanical Names</i>	<i>Common Names</i>	<i>Medical Properties</i>	<i>Dose</i>	<i>Form for Issue</i>	<i>Quantities</i>
Solanum dulcamara,	Bitter sweet or woody nightshade,	Narcotic, alterative; in decoction,	2 fl. ozs.	Herb.	1[lb.] 0[oz.]
Solanum dulcamara,	Do. do.	Narcotic, alterative; in decoction,	5 to 10 grs.	Solid ext.	0[lb.] 8[oz.]
Spigelia marilandica,	Pink root,	Anthelmintic,	½ fl. oz.	Co. fl. ext.	0[lb.] 8[oz.]
Spiræa tomentosa,	Hardhack,	Tonic, astringent,	5 to 15 grs.	Solid ext.	0[lb.] 4[oz.]
Statice caroliniana,	Marsh rosemary,	Astringent; in cold infusion,	—	Rad.	2[lb.] 0[oz.]
Stillingia sylvatica,	Queen's root,	Alterative; in decoction,	½ to 2 fl. ozs.	Rad.	2[lb.] 0[oz.]
Stillingia sylvatica,	Queen's root,	Alterative; in decoction,	1 fl. drachm,	Tinct.	1[lb.] 0[oz.]
Symplocarpus foetidus,	Skunk cabbage,	Antispasmodic, narcotic, expectorant,	10 to 20 grs.	Pulv.	1[lb.] 0[oz.]
Triosteum perfoliatum,	Fever root,	Cathartic,	10 to 20 grs.	Solid ext.	0[lb.] 4[oz.]
Ulmus,	Elm,	Demulcent; in infusion,	Ad libitum,	Cort.	6[lb.] 0[oz.]
Ulmus,	Elm,	Demulcent; in infusion,	Ad libitum,	Pulv.	2[lb.] 0[oz.]
Uva ursi,	Bear berry,	Astringent, tonic, with direction to urinary organs; in decoction,	1 to 2 fl. ozs.	Fol.	1[lb.] 0[oz.]
Veratrum viride,	American Hellebore,	Sedative, expectorant; to be used with caution,	4 to 8 drops,	Norwood's tinct.	1[lb.] 0[oz.]

Source: Samuel P. Moore, "Standard Supply Table of the Indigenous Remedies for Field Service and the Sick in General Hospitals" (Richmond?: Surgeon General's Office?, 1863).

## APPENDIX B: CIRCULAR NO. 3

---

Confederate States of America, Medical Purveyor's Office  
Richmond, Va., April 12, 1862

The instructions contained in this circular are issued for the guidance of the Medical Purveyors and will be duly observed.

- I. For the conveyance of collecting supplies and for the purposes of the Purveying Department, Medical Purveyors are classified as Department Purveyors and field Purveyors, and districts are assigned to them in which to collect supplies, as follows, and for the present:

### DEPOT PURVEYORS

	<i>District</i>	<i>Depot</i>	<i>Purveyor</i>
No. 1	Virginia	Richmond	[Edward W. Johns]
No. 2	N. Carolina	Charlotte	
No. 3	S. Carolina, S. Georgia	Charleston	Surg. J. J. Chisolm
No. 4	Georgia Cen. R. R. & East Florida, N. Georgia	Savannah	Surg. W. H. Prioleau
No. 5	Georgia Cen. R. R. & East Tennessee	Atlanta	Surg. G. S. Blackie
No. 6	Alabama & Middle Tennessee	Montgomery	Surg. Richard Potts
No. 7	Mississippi & West Tennessee	Jackson	Surg. Richard Potts
No. 8	Louisiana	New Orleans	Surg. Howard Smith
No. 9	Texas	San Antonio	Surg. Howard Smith

### FIELD PURVEYORS

<i>Names</i>	<i>Army</i>	<i>Station</i>
Surg. J. T. Johnson	Army Potomac	Gordonsville, N.C.
Surg. E. Warren	North Carolina	Goldsboro, N. C.
Surg. W. H. Wilson	Norfolk	Norfolk, Va.
Surg. F. Morrow	East Tennessee	Knoxville, Tenn.
Asst. E. R. Duval		Fortsmith, Ark.
Asst. Wm. H. Geddings		Fredericksburg, Va.
Asst. D. P. Ramsier		Williamsburg, Va.
Asst. Wm. H. Anderson		Mobile, Alabama
Asst. W. B. Robertson		Wytherville, Va.

- II. Depot Purveyors at Marine ports of entry, when they have opportunities to import supplies will immediately avail themselves of such occasion, should there be a probability of losing the chance of procuring supplies by waiting to report at this office.

When there is time, however, they will not fail to report to this office for instructions in relation to such opportunities in order that some control of the market may be had if possible by combined action.

Depot Purveyors will also send weekly price currents of the general market in the principal cities, and always keep the undersigned well advised of the prices they are paying. They will make monthly and bi-monthly reports to this office of their supplies on hand, the monthly report will be a simple report of the number of men for which they have supplies on hand according to the Supply Table.

The bi-monthly reports will include the monthly report, due for the second month of the bi-monthly period, and will also state in an enumerated list of the articles, the amount of all supplies on hand at the end of the bi-monthly period. The bi-monthly periods are to be considered as commencing with the year.

Depot Purveyors are expected to keep themselves well advised as to, and to avail themselves, without loss of time, of all sources of supplies within their districts; and each Purveyor will use every endeavor to have, if possible always in hand, a reserve of supplies for 50,000 men for one month, over their issues.

The Purveyors stationed at Marine Ports of entry will assist, when they are able to do so, those stationed inland, by issuing necessary supplies. In such cases the request for the transfer of such supplies will be sent to this office for approval.

- III. Field Purveyors will provide by timely requisition on the depot Purveyors nearest them, for such supplies only as are necessary for one month, for the Army Corps with which they are serving. When there is a reasonable probability that their commands may be distant from a Purveyor's depot, and transportation difficult from such depot to them, they should provide supplies for two months, reporting the necessity to this office. They will require for, and issue only, such supplies as are necessary to meet special requisitions from regiments, or to furnish regiments that may not have been able to obtain supplies upon regular requisitions.

Field Purveyors will always so dispose their supplies on hand that they may be moved to the rear, or some other place of safety, when there is a danger of losing them, and will give preference always to the preservation of surgical instruments, quinine, morphine & the other leading articles. They will endeavor to obtain if possible & keep under their control special transportation to move their supplies, and to this end they should urgently represent to commanding Generals the great scarcity of medical supplies in the Confederacy & the pressing necessity that what we should have saved.

Regimental medicine chests & Hospital Knapsacks (which latter are being manufactured for issue) will probably be sufficient for all the medicines a regiment in the field can carry.

- IV. Purveyors to whom the pamphlets prepared in the Surgeon General's Office are sent are instructed to distribute them to the best advantage through their districts to such persons as would be likely to carry out the collection & to such Apothecaries as would not use them for speculation; each Depot Purveyor to employ from one to three trustworthy agents to go through the country in their districts, to collect and encourage the country people to cultivate, collect, and prepare the indigenous plants needed. A special list of such indigenous plants as may have been collected will be forwarded monthly to this office in order that when necessary the plants may be sent to the Laboratory, that preparations may be made from them.
- V. The undersigned expecting and not doubting that the Purveyors will use all means in their power to meet pressing exigencies of the service to which they are assigned, will be at all times, glad to receive from them suggestions that are brief and to the point.

**APPENDIX C:  
A MATERIA MEDICA FOR THE SOUTH;  
A SELECTED LIST OF MEDICINAL SUBSTANCES  
FROM PORCHER'S RESOURCES OF  
THE SOUTHERN FIELDS AND FORESTS**

---

<i>Common Name</i>	<i>Botanical Name</i>	<i>Therapeutic Action</i>	<i>Symptomatic Activity</i>
birch leaves	<i>Betulacea</i> spp.	Hematuria, dyspepsia and bowel complaints	likely <sup>1</sup>
boneset	<i>Eupatorium perfoliatum</i>	Fever	no
dogwood		Fever	no
dittany	<i>Cunila mariana</i>	diaphoretic, fever, colds	no
evening primrose	<i>Oenothera</i> spp.	skin conditions	possibly <sup>2</sup>
fringe tree	<i>Chionanthus virginica</i>	intermittent fever	no
fleabane	<i>Erigeron canadensis</i>	diuretic, astringent	possibly <sup>3</sup>
Georgia bark	<i>Pinckneya pubens</i>	tonic and anti-periodic	no
gentian	<i>Gentiana lutea</i>	dyspepsia	possibly <sup>4</sup>
geranium (cranesbill)	<i>Geranium maculatum</i>	astringent (useful in diarrhea/ dysentery)	likely <sup>5</sup>
goldenseal	<i>Hydrastis canadensis</i>	tonic	possibly <sup>6</sup>
Jamestown weed	<i>Datura stramonium</i>	anti-spasmodic, anodyne, narcotic	likely <sup>7</sup>
Indian tobacco	<i>Lobelia inflata</i>	diaphoretic, expectorant, use in bronchial asthma	likely <sup>8</sup>
pink root	<i>Spigelia marilandica</i>	anthelmintic	likely <sup>9</sup>
pleurisy root	<i>Asclepias tuberosa</i>	expectorant and diaphoretic	possibly <sup>10</sup>
raspberry/blackberry	<i>Rubus</i> spp.	astringent for treating diarrhea	likely <sup>11</sup>
sassafras	<i>Sassafras officinalis</i>	tonic	no
scullcap	<i>Scutellaria lateriflora</i>	rabies	no
tansy	<i>Tanacetum vulgare</i>	tonic, anthelmintic (i.e., verminfuge)	likely <sup>12</sup>
valerian	<i>Valeriana</i> spp.	sedative	likely <sup>13</sup>
yellow dock	<i>Rumex crispus</i>	laxative	likely <sup>14</sup>
watermelon	<i>Curcubita citrullus</i>	diuretic	no

## NOTES

1. The plant contains a number of flavinoids thought to have an effect on the urinary tract and has been endorsed by German Commission E for this purpose. See Varro E. Tyler, *Herbs of Choice: The Therapeutic Uses of Phytomedicines* (New York: Pharmaceutical Products Press, 1994), pp. 77–78.
2. Evening primrose contains 14 percent fixed oil, 9 percent of which is an unusual one referred to as GLA (*cis*-gamma-linolenic acid). Some studies suggest it may improve atopic eczema. See Varro E. Tyler, *The Honest Herbal*, 3rd ed. (New York: Pharmaceutical Products Press, 1993), pp. 123–25.
3. Contains some tannins, volatile oils, and gallic acid. See *The Merck Index*, 12th ed. (Whitehouse Station, NJ: Merck, 1996), p. 623. The plant may also be antiphlogistic; see the *PDR for Herbal Medicines* (Montvale, NJ: Medical Economics, 1998), p. 831.
4. Some studies suggest that gentian works on the membranes of the stomach and mouth as a digestive stimulant. See Daniel B. Mowrey, *The Scientific Validation of Herbal Medicine* (New Caanan, CT: Keating Publishing, 1986), p. 250; and *PDR for Herbal Medicines*, pp. 866–67.
5. *Geranium maculatum*'s 10%–18% tannin content would make it a useful astringent. See *The Merck Index*, p. 4412.
6. This plant contains the alkaloids hydrastine and berberine, both of which have antiseptic amoebicidal properties. See Tyler, *Herbs of Choice*, p. 162; and *PDR for Herbal Medicines*, pp. 903–4.
7. Contains more than thirty different tropane alkaloids, but would have to be used with caution as overdose could be lethal. See Andrew Pengelly, *The Constituents of Medicinal Plants*, 2nd ed. (Muswellbrook, NSW: Sunflower Herbals, 1997), p. 87. See also *PDR for Herbal Medicines*, p. 802.
8. Lobelia contains an alkaloid, lobeline, which several studies suggest is a bronchial dilator in humans. See Melvyn R. Werbach and Michael T. Murray, *Botanical Influences on Illness: A Sourcebook of Clinical Research*, 2nd ed. (Tarzana, CA: Third Line Press, 2000), p. 137–38.
9. Contains spigeline, resins, tannin, and volatile oils. Still listed as an anthelmintic in *The Merck Index*, p. 8900, and *PDR for Herbal Medicines*, p. 1155.
10. Several studies support its use in this regard. See Mowrey, *Validation of Herbal Medicine*, p. 240, and *PDR for Herbal Medicines*, pp. 672–73.
11. All *Rubus* spp. contain polyphenols called tannins that are known to be effective against diarrhea. According to Tyler, “They effect this by binding to the surface protein layer of the inflamed mucous membranes, causing it to thicken, thereby hindering resorption of toxic materials and restricting secretions. See Tyler, *Herbs of Choice*, pp. 51–52.
12. Tansy contains a volatile oil known as thujone, which is responsible for the anthelmintic properties of the plant. Thujone level can be highly variable between plants, and therefore proper dosage can be very difficult. Overdoses can be quite dangerous. See Tyler, *Honest Herbal*, pp. 305–6.
13. Although *Valeriana officinalis* is the official pharmacopoeial form, others contain the active sedative principles and thus the several species suggested by Porcher undoubtedly had the same effect. See Tyler, *Honest Herbal*, pp. 315–16.
14. The plant's laxative properties are due to anthraquinone derivatives. See *Ibid.*, pp. 325–26.

**APPENDIX D: MEDICINE CHEST OUTFIT  
FOR FROM 80 TO 100 MEN; U.S. NAVY**

<i>Articles</i>	<i>Qty.</i>	<i>Articles</i>	<i>Qty.</i>
Acaciæ pulv .....	oz. 2	Creta præparat .....	oz. 6
Acid citric .....	oz. 4	Ferri: chlor: tin .....	oz. 1
Acid sulph. aromat .....	oz. 1	Ferri: liq: persulph .....	oz. 8
Acid tannic .....	oz. ½	Glycyrrhz, extract .....	oz. 4
Acid tartaric .....	oz. 2	Glycerina .....	oz. 4
Adeps .....	oz. 4	Guaiaci: tinct: ammon .....	oz. 4
Æther .....	oz. 4	Hydrarg: chlorid: mite .....	oz. 3
Æther: spts: comp .....	oz. 4	Hydrarg: pil: (5 gr. Pills) .....	no. 200
Æther: nit: spts .....	oz. 4	Hydrarg: ung .....	oz. 3
Alcohol .....	oz. 16	Hydrarg: ung nitrat .....	oz. 2
Aloe .....	oz. 1	Ipecac: pulv .....	oz. 1
Ammon: liq .....	oz. 4	Ipecac: et opii: pulv .....	oz. 1
Ammon: carbon .....	oz. 2	Jalap: pulv .....	oz. 1
Amon: sp: aron .....	oz. 1	Lini pulv .....	lb. 2¾
Antim: et pot: tart .....	oz. 1	Magnesia .....	oz. 1
Argent: nit: fus .....	oz. 1	Magnes sulph .....	oz. 5
Arnicae .....	oz. 4	Menth: pip: ol .....	oz. 1
Camphor .....	oz. 2	Morphiæ .....	oz. ¼
Canthar: cera .....	oz. 8	Ol: olivæ .....	bot. 1
Capsici: tinct .....	oz. 4	Ol: ricini .....	bot. 3
Caryophilli: ol .....	oz. 1	Ol: terebinth .....	bot. 1
Cerat: simp .....	oz. 8	Ol: tiglii .....	oz. 1
Chloroformum .....	oz. 8	Opii pulvis .....	oz. 2
Colchici: sem: tinct .....	oz. 4	Opii tinct .....	oz. 4
Collodium .....	oz. 1	Opii tinct: camp .....	oz. 4
Copiaba .....	oz. 4	Pil: cath: comp .....	no. 200
Copiaba: ol .....	oz. 1	Pil: laxative .....	no. 200
Creosotum .....	oz. 1	Plumb: acet .....	oz. 3
Plum: nitras .....	oz. 8	Wine, sherry .....	bot. 3
Potassæ arsenit: liq .....	oz. 1	<i>Dispensary Furniture</i>	
Potassæ bitart .....	oz. 4	Bottle clasps .....	q.s.
Potassæ nitras .....	oz. 3	Corks, vial .....	doz. 4
Potassii iodid .....	oz. 2	Corkscrew .....	no. 1
Quiniæ sulph .....	oz. 4	Funnels, glass .....	no. 1

<i>Articles</i>	<i>Qty.</i>	<i>Articles</i>	<i>Qty.</i>
Resinæ cerat .....	oz. 8	Jars, delf, ointment, ½ pint .....	q.s.
Rhei pulv .....	oz. 2	Measure, glass, 1 oz. ....	no. 1
Sapo .....	lb. 1	Measure, glass, 1 dr. ....	no. 1
Sapon: emp:adh .....	yd. 5	Mortar and pestle, wedgewood no.	1
Sapon: tinct: comp .....	oz. 8	Mortar and pestle, glass .....	no. 1
Scillæ syrup .....	oz. 8	Pill boxes, paper .....	paper ¼
Senn: ext: tl .....	oz. 8	Pill boxes, tile .....	no. 1
Sodæ bicarb .....	oz. 4	Scales and wts., apoth., small set	1
Sodæ boras .....	oz. 4	Scissors .....	pair 1
Sodæ et potas: tart .....	oz. 4	Sheepskin .....	no. 1
Sulphur .....	oz. 4	Spatula .....	no. 1
Tolu: tinct .....	oz. 4	Twine .....	lb. ¼
Ulmi pulv .....	lb. 1	Vials, assorted .....	doz. 1
Zinci acet .....	oz. 1	Medicine chest .....	1
Zinci sluph .....	oz. 1	Surgical Instruments & Appliances	assort.
Zingib: tinct .....	oz. 4	Bedding	assort.
<i>Hospital Stores</i>		Hospital & Kitchen Furniture	assort.
Arrowroot .....	lb. 4	Books & Stationary	assort.
Meat, preserved .....	lb. 10		
Milk .....	cans 1		
Soup .....	cans 2		
Sugar, white .....	lb. 5		
Tapioca .....	lb. 2		
Whiskey .....	bot. 6		
Wine, port .....	bot. 3		

Source: Instructions for the Government of the Medical Officers of the Navy of the United States (*Washington: GPO, 1864*), pp. 15–17.

## APPENDIX E: CIRCULAR NO. 6

---

Surgeon General's Office  
Washington, D.C., May 4, 1863

I. From the reports of Medical Inspectors and the Sanitary reports to this office, it appears that the administration of calomel has so frequently been pushed to excess by military surgeons as to call for prompt steps by this office to correct this abuse; an abuse the melancholy effects of which, as officially reported, have exhibited themselves not only in innumerable cases of profuse salivation, but in the not infrequent occurrence of mercurial gangrene.

It seeming impossible in any other manner to properly restrict the use of this powerful agent, it is directed that it be struck from the Supply Table, and that no further requisitions for this medicine be approved by Medical Directors. This is done with the more confidence as modern pathology has proved the impropriety of the use of mercury in very many of those diseases in which it was formerly unfailingly administered.

II. The records of this office having conclusively proved that diseases prevalent in the Army may be treated as efficiently without tartar emetic as therewith, and the fact of its remaining upon the Supply Table being a tacit invitation to its use, tartar emetic is also struck from the Supply Table of the Army.

No doubt can exist that more harm has resulted from the misuse of both these agents, in the treatment of disease, than benefit from their proper administration.

*W. A. Hammond*  
*Surgeon-General*

## APPENDIX F: HOW TO READ AND FILL A CIVIL WAR PRESCRIPTION

---

All prescriptions of the Civil War period were written in Latin. Yet Edward Parrish admitted that the Latin employed in most everyday prescriptions, even those of the best classically educated physicians, was grammatically incorrect and riddled with errors. Nevertheless, because physicians and army surgeons used just a few Latin phrases repeatedly, a thorough knowledge of the language was not essential. Still, a working knowledge of Latin is very helpful in reading 19th-century prescriptions and some Latin terms and phrases commonly found in prescriptions of the period are listed below. A key to understanding prescriptions during the war period is a familiarity with the symbols and conventions for indicating quantities used by the medical staff. Much of this is covered in *The Hospital Steward's Manual* (1862), which follows the list of Latin phrases and approximate measures. Taken together, these should give the modern readers a basic primer useful for reading and following prescriptions of the 1860s.

### A GLOSSARY OF LATIN PHRASES<sup>1</sup> AND APPROXIMATE MEASURES

*A, aa, ana* (Greek) of each. It signified equally by weight or by measure.  
*Abs. febr., absente febre*, fever being absent.  
*Ad. 2 vic., ad secundam vicem*, to the second time; or *ad duas vices*, two times.  
*Ad. gr. acid., ad gratam aciditatem*, to an agreeable acidity.  
*Ad. def. animi, ad defectionem animi* or *Ad. del. an.*, to fainting.  
*Ad. libit., ad libitum*, at pleasure.  
*Add., adde, or addantur*, add, or let them be added; *addendus*, to be added.  
*Adjac., adjacens*, adjacent.  
*Admov., admove, admoveatur*, apply, let it be added, let them be added.  
*Ads. febre, adstante febre*, while the fever is present.  
*Alter. hor., alternis horis*, every other hour.  
*Alvo adstr., alvo adstricta*, when the bowels are confined (restricted).  
*Aq. astr., aqua astrica*, frozen water.  
*Aq. bull., aqua bulliens*, boiling water.  
*Aq. com., aqua communis*, common water.  
*Aq. fluv., aqua fluvialis*, river water.  
*Aq. mar., aqua marina*, sea water.  
*Aq. niv., aqua nivalis*, snow water.  
*Aq. pluv., aqua pluvialis*, rain water.  
*Aq. ferv., aqua fervens*, hot water.  
*Aq. font., aqua Fontana*, spring water.  
*Bis ind., bis indies*, twice a day.  
*Bib., bibe*, drink.  
*B.M., balneum mariae, or balneum maris*, a warm-water bath.  
*But., butyrum*, butter.  
*B.V., balneum vapris*, a vapor bath.  
*Cærul., cæruleus*, blue.

---

<sup>1</sup> From Francis Mohr and Theophilus Redwood, *Practical Pharmacy: The Arrangements, Apparatus, and Manipulations of the Pharmaceutical Shop and Laboratory*, edited by William Procter (Philadelphia: Lea and Blanchard, 1849), pp. 478–84.

*Cap.*, *capiat*, let him/her take.  
*Calom.*, *calomelas*, calomel.  
*C. C.*, *cucurbitula cruenta*, a cupping-glass with scarificator.  
*Cochleta.*, *cochleatim*, by spoonful.  
*Coch. ampl.*, *cochleare amplum*, a tablespoonful (f ʒ iv = 15 cc.).  
*Coch.*, *infant.*, *cochleare infantis*, a child's spoonful.  
*Coch. med.* or *mod.*, *cochleare medium* or *modicum*, dessert spoonful (f ʒ ii = 8 cc.)  
*Coch. parv.*, *cochleare parvum*, a teaspoonful.  
*Col.*, *cola*, strain.  
*Colet.*, *coletur*, *colat.*, *colatur*, let it be strained; *colaturæ*, to the strained liquid.  
*Colent.*, *colentur*, let them be strained.  
*Color.*, *coloretur*, let it be colored.  
*Comp.*, *compositus*, compounded.  
*Cong.*, *congius*, a gallon.  
*Cont. rem.* or *med.*, *continuentur remedia* or *medicamenta*, continue the remedy or medicine.  
*Coq.*, *coque*, boil; *coquantur*, let it be boiled.  
*Coq. ad. med. consumpt.*, *coqatur ad mediatatis consumptionem*, let it be boiled to the consumption of one-half.  
*Coq. in S.A.*, *coque in sufficiente quantitate aquæ*, boil in a sufficient quantity of water.  
*Cort.*, *cortex*, bark.  
*C.v.*, *cras vespere*, tomorrow evening.  
*C.m.s.*, *cras mane sumendus*, to be taken tomorrow morning.  
*C.n.*, *cras nocte*, tomorrow night.  
*Crast.*, *crastinus*, for tomorrow.  
*Cuj.*, *cujus*, of which.  
*Cujusl.*, *cujuslibet*, of any.  
*Cyath. theæ*, *cyatho theæ*, in a tea cup of tea (f ʒ iv = 120 cc.) sometimes referred to as a gill.  
*Cyath.*, *cyathus vel* or *C. vinar*, in a wineglass (f ʒ ii = 60 cc.)  
*Deb. spiss.*, *debita spissitudo*, due consistence.  
*Dec.*, *decanta*, pour off.  
*Decub. hor.*, *decubitus hora*, at bedtime.  
*De d. in d.*, *de die in diem*, from day to day.  
*Deglut.*, *deglutiatur*, let it be swallowed.  
*Dej. alv.*, *dejectiones alvi*, stools.  
*Det.*, *detur*, let it be given.  
*Dieb. alt.*, *diebus alternis*, every other day.  
*Dieb. tert.*, *diebus tertiis*, every third day.  
*Dil.* or *dilue.*, *dilutus*, dilute or thin.  
*Diluc.*, *diluculo*, at break of day.  
*Dim.*, *dimidius*, one-half.  
*D. in 2 plo.*, *deter in duplo*, let it be given in double doses.  
*D. in p. æq.*, *dividatur in partes æquales*, let it be divided in equal parts.  
*Donec. alv. bis. dej.*, *donec alvus bis dejecerit*, until the bowels have been twice opened.  
*Donec. dol. neph. exulv.*, *donec dolor nephriticus exulvert*, until the nephritic pain has been removed.  
*D.*, *dosis*, a dose.  
*Ejusd.*, *ejusdem*, of the same.  
*Elect.*, *electuarium*, electuary.  
*Enem.*, *enema*, enema or clyster.  
*Exhib.*, *exhibeatur*, let it be administered.

*F.*, *fiat*, to make.  
*F. pil.*, *fiat pilulæ*, make pills.  
*Feb. dur.*, *febre durante*, during the fever.  
*Fem. intern.*, *femoribus internis*, to the inside of the thighs.  
*F. venæs.*, *fiat venæsectio*, perform a venesection.  
*F. H.*, *fiat haustus*, let a draught be made.  
*Fil.*, *filtrum*, a filter.  
*Fist. arm.*, *fistula armata*, a clyster pipe and bladder fitted for use.  
*Fl.*, *fluidus*, fluid.  
*F. M.*, *fiat mistura*, let a mixture be made.  
*Gel. quav.*, *gelatina quavis*, in any jelly.  
*G. G. G.*, *gummi guttæ gambæ*, gamboge.  
*Gr.*, *granum*, a grain.  
*Gr. vi. pond.*, *grana sex pondere*, six grains by weight.  
*Gtt.*, *gutta*, a drop.  
*Gtt. quibusd.*, *guttis quibusdam*, with some drops.  
*Guttat.*, *guttatim*, by drops.  
*Har. pil. sum. iij*, *harum pilularum sumantur tres*, of these pills let three be taken.  
*H. D.*, *hora decubitus*, at bedtime.  
*H. P.*, *haustus purgans*, purging draught.  
*H. S.*, *hora somni*, at the hour of going to sleep.  
*Hor. un. spatio*, *horæ unius spatio*, at the expiration of one hour.  
*Hor. 11 ma. mat.*, *hora undecima matutina*, at 11 o'clock in the morning.  
*Ind.*, *indies*, daily.  
*In pulm.*, *in pulmento*, in gruel.  
*Inf.*, *infunde*, infuse.  
*Jul.*, *julepus*, julep.  
*Lat. dol.*, *lateri dolente*, to the affected side.  
*M.*, *misce*, mix, or *mensura*, measure, or *manipulus*, a handful, or *minimum*, a minim.  
*Mana pr.*, *mane primo*, early in the morning.  
*Man.*, *manipulus*, a handful.  
*Min.*, *minimum*, a minim or a 60th of a drachm.  
*M. P.*, *massa pilularum*, a pill mass.  
*M. R.*, *mistura*, a mixture.  
*Mitt.*, *mitte*, send.  
*Mitt. sang. ad ℥ xij.*, *mitt. sanguinum ad ℥ xij*, take blood to 12 ounces.  
*Mod. præscr.*, *modo præscripto*, in the manner prescribed.  
*Mor. Dict.*, *more dicto*, in the way order.  
*Mor. sol.*, *more solito*, in the usual way.  
*No.*, *numero*, number.  
*O.*, *octarius*, a pint.  
*Omn. hor.*, *omni hora*, every hour.  
*Omn. bid.*, *omni biduo*, every two days.  
*Omn. bih.*, *omni bihorio*, every two hours.  
*O. M.* or *omn. man.*, *omni mani*, every morning.  
*O. N.* or *omni noct.*, every night.  
*Omn. quadr. hor.*, *omni quadrante horæ*, every quarter of an hour.  
*Oz.*, an avoirdupois ounce (common weight) as opposed to a troy ounce (apothecary weight).

*P. æ. part.*, *parte æquales*, equal parts.  
*Past.*, *pastillus*, a pastil or ball of paste.  
*P.*, *pondere*, by weight.  
*Part. vic.*, *partitis vicibus*, in divided doses.  
*Per. op. emet.*, *peractu operatione emetici*, the operation of the emetic being over.  
*Pocul.*, *poculum*, a cup.  
*Pocul. ampl.*, *poculum amplum*, a large cup or tumblerful (f ʒ viii = 240 cc.)  
*Pocill.*, *pocillum*, a small cup.  
*Post sing. sed. liq.*, *post singulas sedes liquidas*, after every loose stool.  
*Ppt.*, *præparata*, prepared.  
*P. r. n.*, *pro re nata*, occasionally or as needed.  
*P. rat. ætat.*, *pro ratione ætatis*, according to the age.  
*Pulv.*, *pulvis*, a powder.  
*Q.i.*, *q. p.*, or *q. s.*, *quantum libet, placet, sufficiat*, as much as you please.  
*Quor.*, *quorum*, of which.  
*Q. .v.*, *quantum vis*, as much as you will.  
*Red. in pulv.*, *redactus in pulverem*, reduced to powder.  
*Redig. in pulv.*, *redigatur in pulverem*, let it be reduced to powder.  
*Repet.*, *repetatur*, to repeat.  
*S. A.*, *secundum artem*, according to the art.  
*Scat.*, *scatula*, a box.  
*Semidr.*, *semidrachma*, half a drachm.  
*Semih.*, *semihora*, half an hour.  
*Sesunc.*, *sesuncia*, half an ounce.  
*Sesquih.*, *sesquihora*, an hour and a half.  
*Si n. val.*, *si non valeat*, if it does not answer.  
*Si op. sit.*, *si opus sit*, if it be necessary.  
*Signat.*, *signatura*, a label.  
*Sing.*, *singulorum*, of each.  
*S. S. S.*, *stratum super stratum*, layer upon layer.  
*Ss.*, *semis*, a half.  
*St.*, *stet*, let it stand or *stent*, let them stand.  
*Sub fin. coct.* or *sub finem coctionis*, towards the end of boiling, when the boiling is nearly finished.  
*Sum. tal.*, *sumat talem*, let the patient take one like this.  
*Sum.*, *sume, sumat, sumatur, sumantur*, take, let him/her take, let it be taken.  
*S. v.*, *spiritus viniv*, spirits of wine.  
*S. V. T.*, *spiritus vini tenius*, proof spirit.  
*Tabel.*, *tabella*, a lozenge.  
*T. O.*, *tinctura opi*, tincture of opium.  
*T. O. C.*, *tinctura opii camphorata*, camphorated tincture of opium.  
*Ult. præscr.*, *ultimo præscriptus*, last prescribed.  
*V. O. S.*, *vitello ovi solutes*, dissolved in the yolk of an egg.  
*Vom. urg.*, *vomitioe urgente*, the vomiting being troublesome.

EXCERPT FROM  
*THE HOSPITAL STEWARD'S MANUAL*<sup>2</sup>  
1862

PART IV  
THE DISPENSARY  
CHAPTER 2  
HINTS ON PHARMACY FOR HOSPITAL STEWARDS

*Section I.—Remarks on Prescriptions*

Upon the steward in charge of the drugstore devolves the responsibility of compounding the prescriptions of the medical officers. The following brief remarks on this subject may perhaps, therefore, be found useful.

The prescription is headed with the name of the patient for whom it is intended. Then follows the list of ingredients and quantities, preceded by the character R, which is an abbreviation of the Latin word *recipe*, "take." The officinal names of the several ingredients employed. The steward will, however, generally notice a difference between the termination of the officinal name and that of the name employed in the prescription. This is owing to the names being written in Latin genitive case, the verb *recipe* governing the genitive.

Thus, the surgeon writes, R Chloroformi ℥j, instead of "Chloroformum," which is the nominative, *chloroformi* being in the genitive case, and meaning "of chloroform."

This, also, R Zinci sulphatis grs. xx: Zinci sulphas being nominative.

A still greater difficulty in the way of the steward occurs from the fact that surgeons very frequently abbreviate the officinal names for convenience, in writing their prescriptions, writing, for example, Hyd. Chl. Mit. For Hydrargyri chloridum mite; Potas. Iod. For Potassæ iodidum, & c. & c. As these abbreviations are, unfortunately, not always made in the same manner by different surgeons, a very long list of abbreviations might here be given, without exhausting the subject; and as it is directed in army regulations that no person shall be enlisted a hospital steward unless he is *sufficiently skilled in pharmacy* for the proper performance of his duties, it is presumed that such a list would be unnecessary here. Most of the abbreviations, moreover, at once explain themselves to anyone familiar with the officinal names of the articles, and the steward should certainly be with those on the army supply table. The general rule may, however, be laid down, that the steward should under no circumstances allow himself to put up a prescription containing any abbreviation of the meaning of which he entertains the slightest doubt. In all such cases he should go at once to the surgeon for an explanation. By so doing, he not only avoids, at the time, mistakes which might be fatal, but gradually becomes thoroughly acquainted with all the abbreviations employed by the surgeon under whom he serves.

The quantities of the several ingredients employed are indicated by the usual symbols with Roman numerals affixed. Thus:

<i>Weights</i>	<i>Measures</i>
gr. a grain	gtt. a drop
℥, a scruple	℥, a minim
ʒ, a drachm	ʒ, a fluidrachm
℥, an ounce	℥, a fluidounce
℔, a pound	O, a pint
	Cong., a gallon

2 From Joseph Janvier Woodward, *The Hospital Steward's Manual* (Philadelphia: J. B. Lippincott, 1862), pp. 278–94.

The Roman numerals follow these signs, thus:  $\text{̄vi}$ , i.e. six drachms;  $\text{̄xj}$ , i.e., eleven fluidrachms. The following tables may be given for reference:

*Apothecaries Weight.*

Pounds	Ounces	Drachms	Scruples	Grains
$\text{̄i}$ 1 =	12 =	96 =	288 =	5,760
	$\text{̄j}$ 1 =	8 =	24 =	480
		$\text{̄i}$ 1 =	3 =	60
			$\text{̄i}$ 1 =	20

*Avoirdupois Weight.*

Pound	Ounces	Drachms	Grains (Apothecaries)
$\text{̄i}$ 1 =	16 =	256 =	7,000
	oz. 1 =	16 =	437.5
		dr. 1 =	27.34375

Weighing for prescriptions is always done in accordance with apothecaries' weight. Medical purveyors in the U.S. Army, however, are in the habit of employing, in the issue of medical stores, a pound which corresponds neither with the apothecaries' pound nor with that of the avoirdupois weight. It is composed of 16 ounces apothecaries' weight, and contains, therefore, 7,680 grains,—being 1,920 grains heavier than the apothecaries' pound, and 680 grains heavier than the avoirdupois pound.

*Apothecaries' Measures*

Gallons	Pints	Fluidounces	Fluidrachms	Minims
Cong. 1 =	8 =	128 =	1,024 =	61,440
	O. 1 =	16 =	128 =	7,680
		$\text{̄j}$ 1 =	8 =	480
			$\text{̄i}$ 1 =	$\text{̄i}$ 60

The following remarks may be added with regard to certain domestic measures frequently alluded to in the administration of remedies.

A *teacup* is estimated to contain about four fluidounces or one gill. A *wineglass*, two fluidounces. A *tablespoon*, half a fluidounce. A *teaspoon*, a fluidrachm.

The steward may here be cautioned against the frequent mistake of identifying the drop with the minim. The minim is a fixed and unchangeable measure, which varied neither with the nature of the liquid nor the manner in which it is poured out. The drop, on the other hand, is exceedingly variable, differing in size considerably for different liquids, and even for the same liquid, in accordance with the shape of the bottle from which it is poured, and many other circumstances.

As an illustration of the variation caused by the nature of the liquid, it may be stated that in the experiments of Mr. E. Durand, of Philadelphia, on this subject, it was found that while 150 drops of sulphuric ether were necessary to make a fluidrachm, it required 132 of the tincture of chloride of iron, 120 of aromatic sulphuric acid, 120 of laudanum, 78 of black drop, 57 of Fowler's solution, and but 45 of distilled water, for the same purpose.

The list of the articles and their quantities is followed in the prescription by short directions as to compounding it. These are generally written in Latin, and are frequently abbreviated. The following are the abbreviations most commonly employed:

M.—	Misce.—	Mix.
Ft. pulv.—	Fiat pulvis.—	Make a powder.
Ft. pulv. Xij.—	Fiat pulveres xij.—	Make twelve powders.

Ft. pulv. et divid. in chart. xij.—	Fiat pulvis et divide in chartulas xij.	}	Make twelve powders.
Ft. pulv. in ch. xij. div.—	Fiat pulvis in chartulas xij. Dividenda		
Ft. ch. xij.—	Fiat chartulæ xij.	}	Make a solution.
Ft. solut.—	Fiat solutio.—		
Ft. inject.—	Fiat injectio.—		Make an injection (for urethra).
Ft. collyr.—	Fiat collyrium.—		Make an eye-wash.
Ft. enema.—	Fiat enema.—		Make an injection (for rectum).
Ft. mas.—	Fiat massa.—		Make a mass.
Ft. mas. in pil. xij. Dive.—	Fiat massa in pilulas xij. Dividenda.	}	Make twelve pills.
Ft. mas. etdiv. in pil. xij.—	Fiat massa et divide in pilulas xij.		
Ft. infus.—	Fiat infusum.—		Make an infusion.
Ft. haust.—	Fiat haustus.—		Make a draught.
Ft. troch. xxiv.—	Fiat trochisci xxiv.—		Make twenty-four lozenges.

After the directions as to compounding, follow those as to administration. These are always written in English, the direction being prefixed by the abbreviation *S.*—*Signatura*.

The directions are followed by the date and the signature of the medical officer.

The prescription, therefore, consists properly of three parts:

1. The list of ingredients and quantities prefixed by the sign *R.*
2. The directions as to compounding, generally a Latin abbreviation.
3. The directions for administration. These are preceded by the name of the patient, and followed by the date and the signature of the medical officer.

### *Section II.—Compounding and Distribution of Prescriptions.*

Having read the prescription, the steward proceeds to compound it, varying his process according as it is a solution, a mixture, powders, or pills, & c., that he is to prepare.

Where the prescription consists of *liquids only*, they are measured *seriatim* in the graduated measure and poured into the phial which is to receive them, when the process is completed by corking and gently agitating the mixture.

In performing this duty, but one bottle should be taken down from the shelves at a time. The measure should be held by the thumb and finger of the left hand, and the stopper should be seized by the little finger of the same hand. The bottle is held in pouring with the right hand. The measure is held up well up before the eye, so as to observe the quantity with accuracy; and, when it is obtained, the stopper is replaced, and the bottle put back in its place upon the shelf before proceeding to the next ingredient.

Where the ingredients of the prescription are partly solids and partly liquids, the quantities of the solids are to be determined by weight.

If the solids are saline or other solid substances, and a solution is to be made, it is generally best to bruise them in a mortar with the liquids until their solution is effected, after which the product is transferred to a phial.

Where insoluble solid matters are to be suspended in the form of a mixture or emulsion, the mortar becomes still more important. The ingredients are to be rubbed steadily together until a smooth and uniform liquid is obtained, and the label of the phial into which the mixture is introduced should contain directions to shake well before administration.

When the prescription directs the preparation of an given number of *powders*, the ingredients in powder are carefully weighed out and thoroughly mixed together on a pill-tile with a spatula, or, preferably, in a mortar. The mixture having been completed, the product is to be divided into the number of equal parts called for by the

prescription, the division being effected by the scales or the eye, according to the nature of the ingredients and the importance of accuracy. Each portion is then transferred to the paper in which it is to be folded. The papers for each set of powders should be neatly cut and of equal size. The folding is effected in the following manner. A crease is made by folding over the edge along the long side of the paper, at about one-third of an inch from the margin. The opposite edge is then laid in this crease, and the paper folded over longitudinally, so as to give the proper width. The ends are then folded over a spatula, to make the flaps of a proper width.

Uniformity in the size of the powders is exceedingly desirable. It may readily be attained by cutting out a small wooden gauge of the desired size, by which both the length and width of the powder may accurately be determined.

In the preparation of *Pills*, the materials for the whole number of pills, as directed by the prescription, are first to be weighed separately, then worked into a mass of the proper consistence, and afterwards divided into the number of pills called for.

To make a pill-mass where the ingredients are all dry powders, without increasing unnecessarily the size of the pills, requires often considerable ingenuity.

In the case of certain vegetable powders, such as aloes, rhubarb, and opium, a mass suitable for rolling into pills may readily be formed by the aid merely of a small quantity of water, the powder being beat into a mass in a mortar during the gradual addition of the fluid.

Where, however, the powder is of an unadhesive character, as is the case, for example, with many vegetable powders and metallic salts, some adhesive ingredient must be added to them to enable a mass of pillular consistence to be formed.

Molasses answers an excellent purpose in very many cases. It must be added carefully, as an excess will make the pill-mass too fluid for manipulation. Gum Arabic in small quantities may be added where the molasses does not give the mass sufficient cohesion. It is frequently used alone for this purpose, either in the form of powder or of thick mucilage, but is objectionable, as the pills produced by its use are apt to become excessively hard on drying.

For many vegetable powders castile soap answers very well, a small quantity readily imparting the necessary consistence. Resinous powders are particularly adapted to its use.

Where the prescription presents among its constituents one or more semi-solid extracts, it will frequently be found that these impart sufficient tenacity, and that by simply beating the ingredients together a suitable mass is obtained. But it sometimes happens, on the one hand, that the quantity of the soft extract is too small for the purpose, and then the addition of some such articles as those above enumerated becomes necessary; and, on the other hand, the extract may be of such quality and consistence as to make the mass entirely too soft to be rolled into pills. In the latter case addition of some dry powder, which shall not interfere with the medicinal value of the prescription, becomes necessary. Powdered liquorice-root or wheat flour are well adapted for this purpose.

Where the materials to be made into pills are wholly semi-solid or liquid, the addition of some dry powder becomes yet more necessary. Wheat flour is very generally available, and is on the whole preferable to the crumb of bread, which is recommended by many pharmacutists. Powdered liquorice-root, arrow-root, starch, and gum Arabic are also used for the same purpose.

Other articles may be necessary in special cases, as, for example, magnesia in making pills out of balsam of copaiva.

Many other articles are used by pharmacutists in giving elegance and consistence to pills. It is not, however, considered desirable to enumerate them in this place, because in most general hospitals treatises on pharmacy are accessible, and because those above mentioned comprise the chief that will be found accessible to the hospital steward in the field and at remote posts.

The pill-mass, having been properly formed, is next to be divided into the number of pills directed. This may be done either by a spatula upon a pill-tile, or with a pill-machine.

In the first case the pill mass is rolled out upon the tile into a cylinder corresponding in length to the number of pills to be made, which is ascertained by measuring it upon a scale which is marked upon the surface of the tile. The rolling may be commenced with the hand and finished with the spatula. The cylinder is then cut by the spatula into equal pieces, one for each pill, in accordance with the same scale, which is generally ruled up to 18 or 24 pills. The pills are then finished by rolling them separately between the fingers or on the palm of the hand.

In general hospitals the steward is furnished with a pill-machine, by which pills may be made neatly with

considerable rapidity. It consists of a smooth base-piece, in one part of which a number of parallel grooves (18 to 24) are made, and of a roller with a handle on each end, the back of which is smooth and the under surface grooved to correspond with the grooves in the base-piece. The pill-mass having been rolled on the smooth surface of the base-piece with the back of the roller until it is long enough to cover as many grooves as it is to make pills, the cutting surface of the grooves is adjusted, and by the motion of the roller the cylinder is at once divided into the requisite number of pills, which, if the operation has been properly conducted, will be so round as to require no further rolling.

The pills, having been completed either by hand or the machine, are, if very moist, to be spread out upon a sheet of paper with the edges turned up, or upon the bottom of a shallow box, to dry somewhat: they are finally introduced into a pill-box, if for dispensing, or into a bottle if made to keep on hand. In either case, some dry powder, such as starch, liquorice-root, or pulverized sugar, should be introduced to keep them from sticking together.

Where *ointments* and *cerates* are prescribed containing several ingredients, they may very often be compounded upon the pill-tilt by means of the spatula. Occasionally, however, the employment of heat is necessary to make the ingredients combine.

Cerate of Spanish flies may be spread for blisters by means of a spatula slightly warmed. Perhaps the best substance to spread it upon is ordinary adhesive plaster, spreading the cerate so that a margin of half an inch is left uncovered. This will serve to keep the blister in its place.

*Plasters* proper, usually require heat to spread them upon the prepared sheep-skin which is furnished for that purpose. The heat is best obtained by means of a hot iron of the proper shape (plaster-iron). Care must be taken not to heat the iron too hot, or the sheep-skin is shriveled and the adhesiveness of the plaster diminished.

The prescription, having been put up, must not, whatever its nature, be allowed to leave the dispensary without a label. The labels usually employed in civil practice are not adapted to military hospitals, where the label should at once indicate whom the prescription is for, and give information to the nurse as to its administration, and to the surgeon as to its composition. The label must therefore be, in fact, a copy of the prescription, and should be made out in the following form:

FOR PRIVATE JAMES SIMPSON
WARD 2, BED 14.
—
R—Pulveris opii, grs. vj. Cupri sulphatis, grs. ix. Ft. mas. in pil. xxiv div.
S. One pill to be taken every three hours.
2, 16, 1862
_____ Surgeon, U.S.A.

This label should be written upon a neat slip of white paper, about two inches wide by five or six long. It may be pasted upon bottles if considered desirable; but, as the same bottles in a military hospital are to be used again and again, it will save labor in cleaning the bottles to tie the labels upon them. The corners of the label may be folded obliquely at one end, so as to form a point, and this may be tied to the neck of the phial by a thread. The label for pill-boxes may be secured in the same way to the bottom part of the box, leaving the lid free. For packages of powders or other packages, the label should be pasted upon the proper wrapper.

In putting up prescriptions, those for each ward should be put up together, attending to the wards *seriatim* in the order in which their prescription-books come to the dispensary in the morning. So soon as the prescriptions for any ward are complete, the chief nurse of the ward is to be notified, and will send an attendant to bring the medicines to the ward, where they will be distributed to the beds to which they belong, and administered strictly in accordance with directions.

**APPENDIX G: SOME COMMON PRESCRIPTIONS  
OF THE CIVIL WAR PERIOD INCLUDING  
THE BASIC SYRUPS WITH MONOGRAPHS  
ON THE PRINCIPAL SUBSTANCES;  
ALCOHOL, CINCHONA, HYDRARGYRUM  
(MERCURY), OPIUM, AND QUININE**

---

(WITH INGREDIENTS TRANSLATED AND/OR IDENTIFIED FROM THE LATIN)

*For Diarrhea and Dysentery*

R Olei Ricini [castor oil] f℥ iss  
Tincturæ Opii [Tincture of opium] ℥l xxx  
Pulv. Acaciæ [powdered acacia],  
Sacchari, āā ℥ ii  
Aquæ Menthæ Viridus f ℥ iv.

Acacia and sugar with a little water of spearmint; finally, pour in oil and repeatedly triturate; at last, pour in water to the rest little by little and mix it all together.

S. A tablespoonful to be taken every hour or two hours till it operates, the mixture being each time well shaken. (Used as a gentle laxative in dysentery and diarrhea. It is usually known by the name *oleaginous mixture*.)<sup>1</sup>

*For Diarrhea and Upset Stomach*

R Pulveris Kino [powdered *Pterocarpus marsupium*] ℥ ii  
Aquæ bullientis [boiling water] f℥ vi  
Make an infusion and strain; finally, mix accordingly,  
Cretæ Præparatæ [prepared chalk] f℥ iii.  
Tincturæ Opii f℥ ss.  
Spiritus Lavandulæ Compositii [compound spirit of lavender] f ℥ ss.  
Pulveris Acacia [powdered acacia],  
Sacchari, āā ℥ ii.

S. A tablespoonful to be taken for a dose, the mixture being well shaken. (Astringent and antacid, useful in diarrhea.)

*For Upset Stomach, Constipation, and Gas*

R Columbæ contusæ [bruised columbo],  
Zingiberis contusi [ginger, bruised], āā ℥ ss.  
Sennæ [senna] ℥ii.  
Aquæ bullientis [boiling water] Oi.

Macerate for an hour in a vessel closed to like (darkened glass) and strain.

---

1. Prescriptions for diarrhea and dysentery; diarrhea and upset stomach; upset stomach, constipation, and gas; "biliousness" and as a laxative; and a fever remedy of quinine in solution from *U.S. Dispensatory*, 11th ed. (Philadelphia: J. B. Lippincott, 1858), pp. 1514, 1515, 1515, 1513, and 1515, respectively.

S. A wineglassful to be taken morning, noon, and evening, or less frequently if it operates too much. (An excellent remedy for dyspepsia with constipation and flatulence.)

*For "Biliousness" and as a Laxative (Blue Mass Pills)*

R Massæ Pilularum Hydrargyri [blue mass or mercury],  
Pulveris Aloes [powdered aloe],  
Pulveris Rhei [powderd rhubarb], āā ð i.

Mix and with water make a pilular mass and divide into twenty pieces of equal parts.

S. Three to be taken at bedtime. (An alterative and laxative, useful in constipation with deranged or deficient hepatic secretion.)

*A Fever Remedy of Quinine in Solution*

R Quiniæ Sulphatis [quinine sulfate] ℥ gr. xii.  
Acidi Sulphurici Aromatici [sulfuric acid, aromatic] gtt. xxiv.  
Syrupi f ℥ ss.  
Aquæ Menthæ Piperitæ [peppermint water] f℥ i.  
Misce. [mix]

S. A teaspoonful to be taken every hour or two hours. (A good mode of administering sulphate of quinia in solution.)

*For Congestion Due to the Common Cold, Etc. (Catarrh)*

R Polygalæ Senegæ Pulv. [powdered Seneca snakeroot], ℥ ij.  
Ipecacuanhæ Pulv. [powdered Ipecac], ℥ j.  
Mel. Opt. [best honey], ℥ ij.  
Aquæ fervent [hot water], ℥ vj.

Make a mixture of which a small spoonful should be taken at the beginning signs of congestion.<sup>2</sup>

*For Worms and Intestinal Parasites*

R Spigeliæ Mariland [pinkroot], ℥ ss.  
Aquæ ferventis, Oj.

Macerate an hour, of which take a large spoonful every three or four hours.

If a moderate dose of Calomel be given in the evening, sufficient to produce a mild cathartic effect, and its operation followed the next day by the administration of Pinkroot, in doses of from half a fluid ounce to a fluid ounce, once in three or four hours, we have found this plan altogether more efficient than when the Spigelia is given without Calomel.

*For Pneumonia*

According to Dr. Norwood, this prescription is "as much a specific as Quinine is for intermittent fever."

R Tict. Veratri Viride [tincture of American hellebore],  
Syrupi Scillæ [syrup of squills—see below for recipe]

Mix together intimately.

Of this mixture to an adult male, Dr. Norwood advises to begin with from four to six drops, increasing the

---

2. *Source:* Prescriptions for congestion due to the common cold; worms and intestinal parasites; and pneumonia, from Horace Green, *Selections from Favorite Prescriptions of Living American Practitioners* (New York: J. Wiley, 1860), pp. 123, 161, 94, respectively.

amount from one to two drops at each subsequent dose, until the pulse is reduced, or nausea and vomiting are occasioned, when the medicine is to be diminished one-half, and continued as long as necessary to prevent a return of symptoms.

*For Intermittents (Intermittent Fevers)*

℞ Cinchonæ flavæ [yellow cinchona bark] p. ʒj.  
Antim. Potass.-tart. [tartar emetic] gr. ij.  
Opii pulv. [powdered opium] gr. j.

Mix, and divide into four powders. One to be given every second hour.<sup>3</sup>

*In Obstinate Intermittents*

℞ Cinchonæ pulv. [powdered cinchona] ʒ ss.  
Syrupi Auranti [syrup of orange], q. s. [as much as sufficient]

Make an electuary: a teaspoonful to be taken every hour, drinking after it a spoonful of wine. (Many other combinations of bark might be given, containing from ʒ ss to ʒj of bark, with 1–12 of camphor, 1–6 or 1–8 of ginger or of cinnamon, 1–2 valerian, & c.)

*Antiperiodics [for Fever] or Tonic*

℞ Quinæ Disulph. [quinine disulfate or basic sulfate of quinia] gr. ij.  
Pulv. Cinnam. [powdered cinnamon] ʒx.  
Extr. Cinchonæ, q. s. [as much as sufficient] to make 30 pills.

Four, every fourth, third, or second hour.

BASIC SYRUPS

*Syrup of Blackberry Root*

Take of blackberry root, in moderately fine powder, eight troyounces.  
Syrup a pint and a half.  
Diluted alcohol a sufficient quantity.

Introduce the powder, previously moistened with four fluidounces of diluted alcohol, into a glass percolator, and pour diluted alcohol upon it until a pint and a half of tincture have passed. Evaporate this by means of a water bath, at a temperature not exceeding 160°, to half a pint; then mix it while hot with the syrups previously heated, and strain.<sup>4</sup>

*Compound Syrup of Sarsaparilla*

Take of sarsaparilla, in moderately coarse powder (1 lb. 10 ozs. comb.), twenty-four troyounces.  
Guaiacum wood, in moderately coarse powder, three troyounces.  
Pale rose, in moderately coarse powder,  
Senna, in moderately coarse powder,  
Liquorice root, in moderately coarse powder, each, two troyounces.  
Oil of sassafras,  
Oil of anise, each, five minims.

---

3. *Source*: Prescriptions for intermittents, obstinate intermittents, and antiperiodics (for fever) or tonic from Henry Beasley, *The Book of Prescriptions* (Philadelphia: Lindsay and Blackiston, 1865), p. 197.

4. All taken from Edward Parrish, *A Treatise on Pharmacy*, 3rd ed. (Philadelphia: Blanchard and Lea, 1864), pp. 249–51.

Oil of gaultheria three minims.  
Sugar, in coarse powder (6 lbs. 9 ozs. com.), ninety-six troyounces.  
Diluted alcohol in sufficient quantity.

Mix the solid ingredients, except the sugar, with three pints of diluted alcohol, and allow the mixture to stand for twenty-four hours; then transfer it to a cylindrical percolator, and gradually pour diluted alcohol upon it until ten pints of tincture have passed. Evaporate this by means of a water bath, to four pints, filter, and, having added the sugar, dissolve it with the aid of heat, and strain the solution while hot. Lastly, rub the oils with a small portion of the solution, and mix them thoroughly with the remainder.

#### *Syrup of Squills*

Take of vinegar of squill a pint.  
Sugar, in coarse powder (1 lb. 10 oz. com.), twenty-four troyounces.

Dissolve the sugar in the vinegar of squill, with the aid of a gentle heat, and strain the solution while hot.

#### *Compound Syrup of Squills*

Take of squill, in moderately coarse powder,  
Seneka [Seneca snakeroot], in moderately fine powder, each, four troyounces.  
Tartrate of antimony and potassa forty-eight grains.  
Sugar, in coarse powder (2 lbs. 14 ozs. com.), forty-two troyounces.  
Diluted alcohol,  
Water, each, a sufficient quantity.

Mix the squill and seneka, and, having moistened the mixture with half a pint of diluted alcohol, allow it to stand for an hour. Then transfer it to a conical percolator, and pour diluted alcohol upon it until three pints of tincture have passed. Boil this for a few minutes, evaporate it by means of a water bath to a pint, add six fluidounces of boiling water, and filter. Dissolve the sugar in the filtered liquid, and, having heated the solution to the boiling point, strain it while hot. Then dissolve the tartrate of antimony and potassa in the solution while still hot, and add sufficient boiling water, through the strainer, to make it measure three pints. Lastly, mix the whole thoroughly together.

#### *Syrup of Seneka*

Take of Seneka [Seneca snakeroot], in moderately fine powder, four troyounces.  
Diluted alcohol two pints.

Moisten the seneka with two fluidounces of the diluted alcohol; then transfer it to a conical percolator, and gradually pour on it the remainder of the diluted alcohol. When the tincture has ceased to pass, evaporate it, by mean of a water bath, at a temperature not exceeding 160°, to half a pint; then filter, and, having added the sugar, dissolve it with the aid of a gentle heat, and strain the solution while hot.

#### *Syrup of Toluz*

Take of tincture of tolu two fluidounces.  
Carbonate of magnesia one hundred and twenty grains.  
Sugar, in coarse powder (1lb. 12½ oz. com.), twenty-six troyounces.  
Water, a pint.

Rub the tincture of tolu first with the carbonate of magnesia and two troyounces of the sugar, then with the water, gradually added, and filter. To the filtered liquid add the remainder of the sugar, and, having dissolved it with the aid of a gentle heat, strain the solution while hot.

### *Syrup of Ginger*

Take of tincture of ginger six fluidounces.

Carbonate of magnesia half a troyounce.

Sugar, in coarse powder, one hundred and eight troyounces (7 lbs. 6½ oz. com.).

Water, four pints.

Evaporate the tincture to three fluidounces with a gentle heat; then rub it first with the carbonate of magnesia and two troyounces of the sugar, and afterwards with the water, gradually added, and filter. To the filtered liquid add the remainder of the sugar, and, having dissolved it with the aid of a gentle heat, strain the solution while hot.

### ALCOHOL

In the form of Rectified Spirit and Proof Spirit, alcohol is used in many pharmaceutical preparations, which are noticed under the several drugs.<sup>5</sup> Largely diluted spirit is used in evaporating and other lotions, in gargles, collyria [eye wash], & c. Ardent Spirits (brandy, rum, gin, whisky, & c.) may be regarded as diluted alcohol. Of their dietetic use it is not necessary to speak here; Dr. Paris's opinion that the habitual use of them induces "more than half of all our chronical diseases." Medicinally, they are sometimes prescribed, particularly brandy, to rouse the system in some cases of extreme debility, the sinking stage of typhus fever, & c. *Mistura Spiritus Vini Galli* [mixture of spirit of French wine] is given in the dose of half an ounce to an ounce, frequently repeated.

### HYDRARGYRUM (MERCURY)

The compounds of mercury are alterative, deobstruent, cathartic, antiphlogistic, anthelmintic, and antisyphilitic. They are all of them (with the exception, perhaps, of the sulphurets) capable of inducing a state of mercurialism, of which salivation is the most prominent symptom. Their action requires to be carefully watched. Some of the preparations of mercury are corrosive poisons; and most of them are capable of doing serious injury when incautiously used.

Mercurials are supposed directly to promote the secretion of bile, or its flow into the intestines. They increase the effect of diuretics and diaphoretics. The following are the principal preparations and their doses:

*Pilula Hydrargyri* [blue mass]. As an alterative, three to five grains; as a cathartic, eight to fifteen grains, but usually conjoined with purgatives, or followed by them; as a sialogogue [salivating agent], five grains three times a day, till the gums are affected, adding a little opium, if necessary, to prevent the pills from acting on the bowels.

*Hydrargyrum cum Creta* [mercury with chalk] and *Hydr. Cum Magnesia* [mercury with magnesia]. These are mild preparations, yet capable of producing salivation by their continued use. Dose, five to thirty grains; or two to five grains for children. They are much employed in diseases of children attended with deficient biliary secretion. . . .

*Hydrargyri Chloridum* (Calomel). It is impossible to specify here the cases in which this remedy is given, or the intentions it is designed to effect. Dose, as an alterative, half a grain to a grain, every or every other night; as an antiphlogistic, three to five grains; as a cholagogue cathartic, three to six grains; but as its operation is uncertain, it is usual to combine it with vegetable purgatives, or to follow it with a draught of salts and senna. In some cases, as in cholera, yellow fever, & c., calomel has been given in scruple doses. *Pilula Hydrargyri Chloridi* [subchloride?] *composita* [compound calomel pills], five to ten grains; *Pilulæ Calomelanos et Opii* [pills of calomel and opium], one or two pills repeatedly.

*Hydrargyri Bichloridum*. Corrosive sublimate. A few grains are sufficient to cause death. It is given as an alterative, in lepra and other chronic cutaneous diseases, old ulcers, chronic rheumatism, visceral diseases, and in syphilis. Dose, from one-twentieth or one-sixteenth of a grain to one-eighth, two or three times a day. *Liquor Hydrargyri Bichloridi*, half a fluid-drachm to two drachms.

*Hydrargyri Amminio-chloridum* (white precipitate). This is for outward use only.

*Hydrargyri Bromidum* (*Sub-bromidum*). A grain twice a day.

*Hydrargyri Perbromidum*; from one-twentieth to one-fourth of a grain.

---

5. Source: Prescriptions for alcohol, hydragyrum (mercury), cinchona, opium, and quinine and its salts from Henry Beasley, *The Book of Prescriptions* (Philadelphia: Lindsay and Blackiston, 1865), pp. 62–63, 282–84, 195–96, 371–72, 422–23, respectively.

*Hydrargyri Bicycanidum*; one-sixteenth to one-eighth of a grain.

*Hydrargyri Iodidum (flavum, aut viride)* [yellow and green iodide of mercury]; one to three grains.

*Hydrargyri Biniodidum (rubrum)* [red iodide of mercury]; from one-sixteenth to one-eighth of a grain.

*Hydrargyri Acetas*; from one-sixth of a grain to one grain.

*Hydrargyri Pro-nitras*; one-tenth of a grain.

*Hydrargyri Phosphas*; one-sixth to half a grain.

*Hydrargyri Sulphas flavus* [yellow sulfate of mercury]; quarter to half a grain as an alterative; as a rough emetic, two or four grains; one grain with five of starch as an errhine [an agent to induce sneezing].

*Hydrargyri et Quinæ Chloridum* [mercury and quinine]; half a grain three times a day as a sialogogue.

*Potassii Hydrargyro-Iodidum* (Dr. Channing, U.S.) [iodide of mercury in potassium] is employed as the iodide. It is soluble in water, and given in doses of one-twelfth to one-twentieth of a grain.

#### CINCHONA

Peruvian Bark is taken from several species of Cinchona. The kinds principally used are the yellow, the pale, and the red. The first is the most powerful; the pale is used where a lighter tonic is required; the red is now seldom employed. All of them are tonic and antiperiodic; and are used in intermittent fevers (after due evacuations, and during the intermissions), and in diseases of debility unattended with local inflammation, especially of the stomach or bowels; in acute rheumatism, after depletions; in the advanced stage of malignant fevers and exanthemata [rashes like those attending the “eruptive” fevers, i.e. measles]; in scrofula [a morbid condition usually affecting the lymph nodes]; in amenorrhœa [suppressed menstruation]; and in painful neuralgic affections recurring at stated intervals.

The dose of *Pulvis Cinchonæ* is from five grains to two drachms, according to the purpose intended, and the ability of the patient’s stomach to bear it. As a general tonic, it is usual to begin with a few grains, and increase the dose, as may be practicable or necessary, to fifteen, twenty, or thirty grains. In intermittents the medium dose is a drachm, more or less frequently during the intermission. In acute rheumatism, Dr. D. Davis has successfully given, after bleeding, & c., from twenty to thirty grains, three or four times a day.

The two principal alkaloids on which the virtues of Peruvian Bark depend, Quinia and Cinchonina, are used a substitutes for the bark itself. Quinia and its salts will be noticed elsewhere. See Quinia [next monograph]. The following are the officinal preparations of Bark, with their doses:

*Decoctum Cinchonæ* [decoction of cinchona], 1 to 3 ounces.

*Extractum Cinchonæ* [extract of cinchona], 5 to 20 grains.

*Extractum Calisayicum* [extract of calisaya bark (yellow cinchona)], 1 to 4 grains.

*Infusum Cinchonæ* [infusion of cinchona] 1 to 3 ounces.

*Calce, et Magnesie* [light magnesia and cinchona] 1 to 3 ounces.

*Infusum Cinch. Spissatum* [infusion of freshly expressed cinchona], 10 to 20 minims.

*Syrupus Cinchonæ concent.* [concentrated cinchona concentrate] ½ ounce.

—————*vinosus* [syrup of cinchona wine], 1 ounce.

*Tinctura Cinchonæ* [tincture of cinchona], 1 to 3 drachms.

*Tinctura Cinchonæ Am.* [ammoniated tincture of cinchona?] ½ drachm to 1 drachm.

*Tinctura Cinchonæ comp.* [compound tincture of cinchona] 1 to 3 drachms.

*Vinum Cinchonæ* [wine of cinchona], 1 ounce.

*Vinum Cinchonæ et Valerianæ* [wine of cinchona and valerianic acid], 1 oz. every 8 hours.

*Cinchonæ Disulphas, & c.* [cinchona sulfate], 3 to 5 grains.

*Cinchonæ Disulphas, Syrupus* [cinchona syrup], a spoonful.

*Cinchonæ Disulphas, Tinctura* [tincture of cinchona sulfate], a drachm.

*Cinchonæ Disulphas, Vinum* [win of cinchona sulfate], a wineglassful.

#### OPIUM. MORPHIA

Opium is perhaps the most important drug in the whole *Materia Medica*. It is the half-dried juice obtained by cutting the unripe capsule of the White or Eastern Poppy, *Papaver somniferum* (Nat. Ord. *Papaveraceæ*). There are many kinds of opium on commerce. The Turkey or Smyrna Opium, which occurs in small irregular masses, covered outside with the capsules of a species of dock, is of excellent quality, and generally preferred. The various kinds of Opium produced in India are also very good.

Opium, applied externally, acts as a sedative, lulling pain. Given internally in moderate doses, it first produces some excitement, quickening of the pulse, and heat of skin. This effect is quickly followed by a tendency to sleep, and a diminution of sensibility. It abates or banishes pain, if present. It diminishes irritation, and relaxes the muscular system. It diminishes the secretion of the bowels, but increases that of the skin, acting as a sudorific [an agent producing sweating]. Taken continually in small doses, it causes a kind of intoxication, as in opium-eaters. Taken in an over-large dose, it is a dangerous narcotic poison, causing deep sleep, with contraction of the pupil of the eye, succeeded by coma and death.

When not contraindicated, it is the best anodyne and soporific with which we are acquainted. A state of high fever or inflammation forbids its use, as its primary operation is that of a stimulant. It is seldom given when there is a parched tongue and dry skin. In most cases of great pain or irritation, in moderate fever with a moist skin and no cerebral disorder, in delirium tremens, in cancer, in bronchitis (combined with camphor or ipecacuanha, as in Paregoric and Dover's powder), opium may be prescribed. It is given to check the discharge in dysentery and diarrhea, as a diaphoretic in many cases, and as an antispasmodic in convulsive disorders. It may be combined with calomel [see entry on *Hydrargyri Chloridum*] in severe inflammations, as pleurisy; and Dr. Graves gave it in fevers with tartar emetic.

In cases of poisoning by opium, the stomach pump should first be used, or an emetic of sulphate of zinc given; the patient must be kept awake by continual walking between attendants; after the vomiting, cold water may be poured on the face and chest, and an infusion of gall-nuts given, followed by brandy and coffee. Artificial respiration may succeed when all other means have failed.

Opium contains many peculiar chemical principles, but its narcotic properties are chiefly owing to one of these, the alkaloid *Morphia*. Of this, good opium contains about twelve percent, in combination with Meconic acid. This morphia may be extracted from opium, and used separately, either in the pure form or in combination with various acids, with which it forms salts soluble in water and spirit. Morphia resembles opium in its action, but is rather less stimulating. It may be used in the same cases.

The usual dose of opium for the adult is about one grain, but as much as three grains may be given in urgent cases. It acts powerfully on children, and should be given to them either in very small doses, or not at all.

#### QUINA ET SALES. QUININE AND ITS SALTS

Quina and cinchonia are the two bitter alkaloids to which the medicinal properties of the Cinchona barks are owing. The yellow barks (as the Calisaya) contain most Quina; the red barks most Cinchonia. They exist naturally in combination with Kinic acid. Quina is extracted from the bark by a chemical process, and being subsequently combined with sulphuric acid, forms the crystalline Disulphate of Quina, or common Quinine [the same a quinine sulfate]. In this form it is perhaps more used than any other medicine, except Opium. Though itself rather insoluble in water, it becomes very soluble on the addition of a drop of dilute sulphuric acid for each grain of Quinine in the mixture.

As a tonic in simple debility, and loss of appetite from atonic dyspepsia, Quinine is unrivaled. It is rarely given where there is much irritation of the stomach, or in high inflammatory fever. It has lately been highly recommended in typhoid fever, though its employment in this case was deprecated by the late Dr. Graves. It is the best antiperiodics with which we are acquainted. It may be given between the paroxysms of ague, in moderate or in large doses. It is useful in neuralgia and other affections, when marked by periodicity.

The Valerianate of Quina [quinine combined with valerianic acid] has been recommended as an antiperiodic. The Arsenite combines the antiperiodic action of Arsenious acid with that of Quinine. The Citrate of Quinine and Iron may be given in debility when attended with anemia, or in facial neuralgia.

The ordinary dose of *Dispulphate of Quinia* is two grains three times a day. As much as ten grains or more may be given in particular cases. (Quinidia is an alkaloid found in some kinds of bark, which much resembles Quina. What has been called *Amorphous Quinine* is impure Quinidia. It may be prescribed and used like Quinine.)

*Tinctura Quinæ composita* (L.) [compound tincture of quinine]: dose, one to three drachms.

*Quinæ Arsenis* [arsenite (white arsenic) of quinine: dose, one-fifth of a grain.

*Quinæ Citras* [citrate of quinine], one to five grains.

*Syrupus Quinæ Citratis* (Majendie) [syrup of quinine citrate], one to two drachms.

*Ferri et Quinæ Citras* [iron, quinine, and citric acid], five grains.

*Quinæ Ferrocyanas* (Paris Codex) [Ferrocyanate of quinine, ferrocyanic acid  $H_4 Fe(CN)_6$ ], one to five grains.

*Quinæ Iodidum (Hydriodized)* [iodized hydriodate of quinine<sup>6</sup>], two to three grains.

*Quinæ et Ferri Iodidum* [quinine and iodide of iron], two to three grains.

*Quinæ Murias* (D.) [muriate of quinine], one to two grains.

*Quinæ et Hydrargyri Chloridum* [quinine and mercurous chloride (calomel)], half to one grain.

*Quinæ Kinas* [quinine and kino or kinoic acid?], three to five grains.

*Quinæ Lactas* [lactate of quinine<sup>7</sup>], three to nine grains in the day. *Quinæ Nitras* [nitrate of quinine] (Paris).

*Quinæ Phosphas* [phosphate of quinine<sup>8</sup>].

*Quinæ Sulphas (neutra)*. These three are prescribed as the disulphate.

*Quinæ Tannas* [tannate of quinine], one to five grains.

*Quinæ Tartras* [tartrated quinine] (Paris Codex), one to five grains.

*Quinæ Valerianas* (D.) [valerianate of quinine], half to one grain.

*Cinchonæ Dispulphas and Quinidiæ (vel Chinoidinæ) Dispulphas* are prescribed in the same manner as common quinine.

---

6. Hydriodate of quinine consists of sulfate of quinine, 95 parts; iodide of potassium, 40 parts. The product corresponds to 100 parts of hydriodate of quinine. Iodized hydriodate of quinine consists of 70 parts; iodide of potassium, 50 parts; iodine, 20 parts. To be triturated together with a little alcohol. Corresponds to 100 parts of the above quinine salt. See *U.S. Dispensatory*, 15th ed., 1884, p. 1216.

7. Lactate of quinine consists of pure quinine, 70 parts; lactic acid, 35 parts. To be triturated together, if necessary, with a few drops of alcohol. See *Ibid.*, p. 1217.

8. Phosphate of quinine consists of sulfate of quinine, 94 parts; phosphate of sodium, 80 parts. See *Ibid.*, p. 1217.