Standards and Recommendations For Hospital Care Of Newborn Infants

Full-Term and Premature

Bureau Publication 292

United States Department of Labor

Children's Bureau

1943

LETTER OF TRANSMITTAL

UNITED STATES DEPARTMENT OF LABOR,
CHILDREN'S BUREAU,
Washington, March 5, 1943.

MADAM: There is transmitted herewith a bulletin, Standards and Recommendations for Hospital Care of Newborn Infants, Full-Term and Premature.

The bulletin was written by Dr. Ethel C. Dunham and Dr. Marian M. Crane of the Division of Research in Child Development of the Children's Bureau, under the general supervision of Dr. Katherine Bain, director of that Division. The manuscript was reviewed by three committees of physicians; namely, the Bureau's advisory committee of obstetricians, its advisory committee of pediatricians, and the American Academy of Pediatrics committee on the fetus and newborn infant.

Respectfully submitted,

KATHARINE F. LENROOT, *Chief.*

Hon. FRANCES PERKINS,
Secretary of Labor.

UNITED STATES
GOVERNMENT PRINTING OFFICE
WASHINGTON : 1943

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Washington, D. C. - Price 5 cents

Standards and Recommendations for Hospital Care of Newborn Infants

In the present war emergency provision of adequate hospital care for newborn infants is becoming more and more of a problem. With the increasing demand for hospitalization of maternity cases, especially in defense areas, hospital nurseries are overcrowded, with a resulting increase in the hazards to the infants. The fate of newborn infants depends largely upon the medical and nursing care they receive, and, on account of the wartime shortage of professional personnel, it is becoming increasingly difficult for many hospitals to maintain the high standards that have been developed in recent years for the care of newborn infants.

To assist hospitals in modifying some of their procedures while maintaining the recognized standards, this pamphlet presents a statement of such standards, representing in general the consensus of present pediatric opinion, along with certain recommendations that may be helpful in the hospital's efforts to maintain these standards under wartime conditions.

The standards presented here are not minimum standards, pointing out the least that can be done for infants in hospital nurseries without jeopardizing their lives. Rather they are standards pointing out the type of care for such infants that will best safeguard their health.

It is realized that many hospitals may not be able to attain all these standards at once, especially during the wartime emergency. It is expected, however, that such hospitals will find this statement of standards useful in evaluating their present methods of care and the adequacy of their equipment and in setting a goal for future attainment.

MEDICAL SERVICE

The medical staff for the nursery service should be so organized that it will be the duty of one physician, or a committee of physicians, to maintain standards for the care of all newborn infants. Close cooperation should be maintained between the physicians caring for the mothers and those caring for the infants.

A physician with special training and experience in the care of newborn infants should serve as chief physician to the nursery service. He should visit the nursery at regular intervals, should be available for consultation, and should conduct ward rounds and staff conferences in relation to problems concerning the newborn infants. With the cooperation of the obstetric

service, he should outline a plan for care, the details of which should be made available in written form for the use of physicians and nurses. He will be responsible for analysis of records to determine the causes of morbidity and mortality among both full-term and premature infants; for making such data available promptly to the hospital authorities; and for holding regular clinical-pathological conferences.

There should be at least one physician, preferably a resident physician, assigned to the nursery, who will be on call day and night. He should visit the nursery at least once a day.

A physician should examine each infant on admission to the nursery and before discharge, and at other intervals as indicated. Careful records of each infant's clinical course should be kept.

NURSING SERVICE

If the quality of nursing care is to be maintained in spite of war-emergency conditions, it is necessary that hospitals study and evaluate their nursing procedures with a view to making the most economical use of nursing time without lessening the adequacy of the care given.

The procedures described in this bulletin have been planned in an effort not only to improve the care given to newborn infants but also to promote economy in the use of nursing time. It is hoped that many hours of such time will be saved through the recommended modifications in procedure, such as omitting from the delivery-room routine the weighing, measuring, and oiling of the infant; omitting the bath for the first week or 10 days of the infant's life; lengthening the intervals between weighing; reducing the number of garments put on the infant; substituting care at the individual bassinet for the use of common bathing and dressing tables; and assigning nonprofessional duties to workers other than nurses.

The staff [1] of the nursery unit should be under the supervision of a graduate nurse with advanced training in the care of newborn full-term and premature infants. The less well qualified the staff, the greater the need for expert supervision.

It is recommended—

That all graduate and student nurses and auxiliary workers, before being assigned to a nursery unit, should have had supervised pediatric experience, and should have demonstrated aptitude for such work.

That the care of premature infants be entrusted to graduate nurses only, or, if this is not possible, only to student nurses who have had training in the care of such infants.

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[1] In the preparation of standards and recommendations with regard to the nursing staff the following publications have been consulted: Manual of the Essentials of Good Hospital Nursing Service (1942, 202 pp.) and Administrative Cost Analysis for Nursing Service and Nursing Education (1942, 50 pp.), both published by the American Hospital Association and the National League of Nursing Education, New York, and Distribution of Nursing Service During War (1942, 23 pp.), published by the National Nursing Council for War Service, New York.

That graduate and student nurses and auxiliary workers assigned to the care of newborn infants have no other patients—adults or children—under their care.

That no one—graduate or student nurse or auxiliary worker—be assigned to the care of newborn infants (1) unless approval of such assignment has been given by the hospital's employee-health service, or, in the absence of such a service, by a physician authorized by the hospital to approve such assignments, and (2) unless the worker's previous assignment has been on a noninfectious service.

Graduate nurses.—Efforts should be made to staff the nursery unit in such a way that the proportion of graduate nurses to other workers—student nurses and auxiliary workers—will be as large as possible.

Day and night, there should be at least one graduate nurse with advanced training and experience in the care of newborn full-term and premature infants assigned exclusively to the care of such infants or the supervision of their care.

Student nurses.—If student nurses are assigned to the care of newborn infants they should have had previous supervised pediatric experience.

Auxiliary workers.—Although the ideal nursery staff is made up of either all graduate nurses or graduate nurses assisted by student nurses, the present war situation has made it necessary to consider supplementing the services of graduate and student nurses with those of auxiliary workers.

It is recommended that auxiliary workers, compensated or uncompensated, be assigned so far as possible to nonprofessional duties. If assigned to the care of newborn infants they should have had instruction and supervised experience in the nursing care of children, during which time they should have demonstrated ability, interest, and a sense of responsibility. Their duties should be clearly defined; they should be adequately supervised, and the work assigned to them should be commensurate with their training.

In planning for the use of part-time workers it should be remembered that the fewer the workers that enter a nursery the less is the danger of introducing infection.

Ratio of nurses to infants and hours of nursing care.—At least 3 hours of nursing care per 24 hours should be provided for full-term infants and 6 hours for premature infants. This will require that at all times, day and night, nurses (or nurses and auxiliary workers) be provided in the ratio of at least one for each eight full-term infants and at least one for each four premature infants.

NURSERY UNIT [2]

Nurseries

In every hospital with a maternity service there should be provided at least one nursery for well infants and at least one separate nursery, the so-

[2] The term "nursery unit" is used here to include the nursery or nurseries proper and all accessory rooms adjacent to them and used in conjunction with them. The term "nursery" is used solely for a room in which infants are housed.

called "suspect nursery," for infants under observation either because they have been exposed to infection or because it seems likely that they are developing an infectious condition. Except in small hospitals, in which fewer than four premature infants are expected to be under care at one time, there should be at least one separate nursery for premature infants. Provision should be made also for space remote from the nursery unit for the care of infants who are ill and for infants who, though not born in the hospital, are admitted in the early weeks of life.

Size and Construction

It is recommended that each nursery house relatively few infants (1) because it is recognized that individual care of each infant is desirable and that the smaller the number of infants that are cared for in a given space the less the danger of infection and (2) because the fewer the number of individuals entering a given room the lower the bacterial count of the air.

For these reasons a standard has been set of one nursery for each eight full-term infants, the maximum number that one nurse can care for satisfactorily. (See Nursing service, p. 2.)

Since premature infants require more nursing care than full-term infants, a standard has been set of one nursery for each four premature infants, the maximum number that one nurse can care for satisfactorily.

In small hospitals, in which it is anticipated that less than four premature infants will be under care at any one time, space for premature infants should be provided in the nursery for full-term infants, rather than in a separate nursery. Suitable environmental temperature and humidity may be maintained for these infants by use of incubators or heated bassinets.

The suspect nursery should contain not more than three bassinets. One bassinet in the suspect nursery should be provided for each five bassinets in the nursery for well full-term infants. (Even the smallest hospital should have at least two bassinets for suspect cases.)

The suspect nursery should be completely separated from the nurseries for well infants.

For the care of infants that are ill, isolation facilities should be provided in a part of the hospital remote from the maternity unit. Even in small hospitals the suspect nursery should not be used for infants who have conditions that have been definitely diagnosed as infectious.

The nurseries for full-term and for premature infants should be located near the maternity ward, but out of line of traffic from other services. There should be outside windows to admit daylight and sunlight. Provision should be made for controlling the sunlight in hot seasons and hot climates.

In the planning of a nursery consideration should be given to the amount of air space and floor space needed for the proper care of each infant. The floor space should be sufficient (1) to permit each bassinet to be separated from any other bassinet and from any wall or partition; (2) to

provide room for the needed furniture and other equipment, including that needed for bedside care of each infant; and (3) to permit attendants to give bedside care to each infant and to pass easily from bassinet to bassinet.

It is recommended—

That the total nursery space be adequate to provide an *average* per infant of 300 cubic feet of air space and 30 square feet of floor space.

That bassinets be separated by partitions forming cubicles, each cubicle sufficiently large so that the bassinet will stand at least 6 inches from any wall or partition and so that there will be at least 2 feet of floor space beside each bassinet to permit bedside care. Even if the bassinets are not separated by partitions, these same space measurements are recommended.

That aisle space at least 2 feet wide—preferably 3 feet—be planned, to provide a passageway for attendants.

For each suspect nursery, a minimum of 40 square feet and 400 cubic feet should be provided for each bassinet. This will give adequate space not only for bedside care but for bedside treatment.

Control of Atmospheric Conditions

Adequate ventilation and control of temperature and humidity contribute to the welfare of newborn infants, especially premature ones. The ideal arrangement is complete air-conditioning.

It is recommended that the nurseries be equipped with complete air-conditioning; that is, controlled temperature, humidity, and air motion; that the air be filtered and that it be sterilized by ultraviolet light or by some other method.

In plans for new hospitals, if installation of air-conditioning is not possible at the time of construction, space for ducts at least should be provided, so that later installation of air-conditioning will be facilitated.

In the absence of air-conditioning, windows or air ducts must be depended upon as the source of fresh air, and they should be so arranged that there will be circulation of air without drafts around bassinets. The air current should be directed so that it will not strike the infants. Partitions forming cubicles should reach only part way to the ceiling so as to allow for ventilation. There should be thermostatic control of room temperature. Sterilization of air at entrances to cubicles provides added protection. For premature infants, who require relatively high temperature and humidity, the environment may be controlled by the use of specially equipped incubators.

Walls, Ceilings, and Floors

The walls, ceilings, and floors of the nurseries and accessory rooms should be constructed of nonabsorbent material that can be washed, and it is preferable to have all corners rounded to facilitate washing. Soundproofing is desirable. As was previously stated, it is recommended that partitions be placed between bassinets and that the partitions in non-air-

conditioned nurseries should reach only part way to the ceiling so as to allow for ventilation. A section of each partition, extending about 18 to 24 inches above the bassinet level, should be transparent in order to permit the nurse to view all the bassinets from her station.

A viewing window should be provided between each nursery and the nurses' station, and one between each nursery and the corridor so that relatives may see the infants without coming in contact with them.

Furnishings and Equipment

Bassinets.—Each bassinet should be of the type that consists of a single metal stand with a steel-band basket, which is removable to facilitate cleaning.

Bedside tables.—A bedside table with a drawer and a lower compartment with a shelf and a door should be furnished for each bassinet, to serve as a work table and as a cabinet for storage of a 24-hour supply of equipment needed for care of the infant. The top of the table should be about 16 inches by 20 inches.

Lavatories.—In each nursery there should be a lavatory with hot and cold running water. Faucets should have knee or foot control.

Diaper cans.—In each nursery there should be at least one metal sanitary can for diapers, with the top controlled by foot pedal. Removable paper bags for lining this can should be provided.

Linen hampers.—In each nursery there should be at least one hamper with removable bag, for soiled linen other than diapers.

Incubators.—Nurseries where premature infants are expected to be cared for should have incubators. The incubators may be either commercial or home-made. They should conform to specifications that have been prepared by the National Bureau of Standards and the Children's Bureau.[3]

Accessory Rooms

Chartroom.—The chartroom should serve as a "control station"; that is, it should be so situated that it serves as the main entrance from the corridor into the nurseries for well infants.

A viewing window between the chartroom and each of the nurseries adjoining it should be provided.

The nurse's desk should be so placed that she will be in a strategic position in relation to the viewing windows and the door from the chartroom to the corridor.

Nurses' work space.—The nurses' work space is a combined supply and utility room. In smaller hospitals the work space may be a part of the chartroom. In larger hospitals a separate workroom should be provided. Its minimum equipment should be: A sink, an instrument sterilizer, a bottle warmer, a table or shelf, and a cupboard.

[3] Dunham, Ethel C., M. D.; H. C. Dickinson, Ph. D.; Grace J. Gowens; and Juanita Witters: Incubators for Premature Infants. American Journal of Public Health, vol. 30, no. 12 (December 1940), pp. 1415–1421.

Examining room.—In order that traffic into the nursery may be reduced to a minimum, it is recommended that an anteroom be equipped as a physicians' examining room.

Between the examining room and the nursery there should be a sliding window or a Dutch door, with a shelf or table in front of the opening to serve as an examining table upon which the nurse places the infant. This will permit the physician to examine the infant without going into the nursery.

The examining room should be well lighted, preferably with natural light in the daytime, and it should be provided with a lavatory, a table for use as an examining table, and a desk.

Treatment room.—In smaller hospitals the examining room may serve also as the treatment room.

In larger hospitals a separate room outside of the nursery unit should be provided as a treatment room for infants other than suspect or isolation cases. This room should be furnished with a treatment table, a lavatory, a small instrument sterilizer, and a cabinet for supplies. It is assumed that solutions and other supplies used in giving treatments will be requisitioned from the general hospital supply room and that instruments and needles suitable for use in treating infants will be made available.

Demonstration room.—Facilities should be provided so that the nurses can instruct mothers, before discharge to their homes, in methods of feeding, bathing, and dressing their infants. In larger hospitals a demonstration room should be provided for this purpose. In smaller hospitals demonstrations may be given in the nursery, in front of the viewing window, to the mothers seated in the corridor. The nurse's instructions may be made audible to the mothers by means of a loud speaker.

Milk room.—The location of the milk room and the supervision of the work of making up the feedings will vary with the type of hospital, its personnel, and its special administrative problems. Under any circumstances it is essential that a separate room be provided for preparing the milk mixtures and that this room be used for no other purpose. The milk room should be situated where the danger of contamination is least and where the most adequate supervision can be given, by a dietitian or nurse who is experienced in milk-room procedures. If the hospital has a dietitian it may be best to locate the milk room near the general diet kitchen and to have the preparation of the milk mixtures supervised by the dietitian.

It is recommended that the milk room be divided into two sections by a partition in which there is a Dutch door, a sliding window, or a sterilizer with doors on each side. This permits the exclusive use of one section of the room for receiving and washing glassware and other utensils used in feeding the infants, and of the other for sterilizing the utensils and for preparing and storing milk and milk mixtures. There should be two Dutch doors on the corridor side of the milk room, one for each of the two sections of the room; one of these doors is for receiving used bottles, the other for distributing sterile feedings.

The minimum equipment of the milk room should be: A refrigerator, a sink, a lavatory, sterilizers, a device for cooling the bottles of milk mixture after sterilization, cupboards, and a work table; all these should be so constructed that they can be readily washed.

Milk-room procedure should be carried out with strictly aseptic technique. Milk mixtures should be poured into sterile bottles. It is recommended that nipples and nipple caps be put onto the bottles in the milk room and that final sterilization of the milk mixtures in the bottles be done by autoclaving. Cooling should be rapid and should be complete before the bottles are placed in the refrigerator. The temperature inside the refrigerator should be between 40° and 45° F.

Nurses and others working in the milk room should wear gowns and surgical caps. It is best that these workers have no other responsibility besides their work in the milk room. During the entire period that these workers are assigned to milk-room duty they should have no contact with patients that have infectious conditions.

TECHNIQUE OF CARE

The nursing procedures to be followed in the care of the infants should be planned jointly by the medical and nursing staffs and should be available in written form to attending and resident physicians and to nurses.

The superintendent of nurses should have the responsibility for seeing that the technique of caring for the infants is carried out.

Certain recommendations in regard to the basic principles of care are made here with full recognition of the considerable diversity of opinion that exists with respect to some of the details of technique.

Delivery-Room Care

The care that the newborn infant receives at the moment of birth and in the period after birth while he is still in the delivery room plays an important role in his future well-being. The abrupt change from uterine to extrauterine environment requires major adjustments in the infant's circulatory and respiratory systems during the period immediately after birth. Proper delivery-room care, aimed at prompt initiation and maintenance of respiration and carried out in such a way as to conserve the infant's body heat, will facilitate these adjustments.

Preparation for care of the infant in the delivery room should include provision of adequate personnel as well as of suitable environment and equipment.

Staff

It is recommended—

That a nurse trained in the care of newborn infants be assigned to the delivery room, to have as her sole responsibility the care of the infant.

That a physician trained in the care of newborn infants be on emergency call at all times and be present in the delivery room during premature and other abnormal deliveries.

Environment and Equipment

The delivery room should be warm, and the temperature should be maintained at the level considered by the medical staff to be optimum for mother and infant. In addition, the following equipment should be always ready in advance:

A smooth flannel blanket, in a sterile package, warmed and ready to receive the infant at birth. A heat lamp on a standard is helpful in keeping the infant warm.

A safe, suitable type of suction device for cleaning the infant's upper respiratory tract of mucus and other fluid.

An oxygen tank with mechanism for measuring and controlling the amount of gas and with a suitable mask or other device for administering oxygen to an infant.

Equipment suitable for clamping, cutting, and tying the umbilical cord and for dressing it. It is recommended that the clamping of the cord be delayed until pulsation has ceased, so that the infant may receive the full complement of placental blood.

Some type of heated bed or incubator—warmed in advance. (See p. 6.)

Provision for prophylactic treatment of the infant's eyes.

A supply of vitamin K for parenteral use.

Some device for identifying infants before they leave the delivery room—beads, footprinting equipment, or other.

It is recommended that the weighing, measuring, bathing, and oiling of the infant be omitted as part of the delivery-room routine. Any of these procedures that the medical staff considers desirable may be carried out later in the nursery after the infant's temperature has become stabilized. Weighing may be necessary to determine an infant's need for special treatment.

Transit From Delivery Room to Nursery

Provision should be made for keeping the infant warm and protected from exposure to infection during transit from delivery room to nursery.

It is recommended that a heated bed or a warm carrier (sometimes called a "hand ambulance") be used for transfer of the infant. If the infant is carried by a nurse he should be wrapped in a warm blanket and the nurse should wear a mask and a gown.

An elevator when used by an attendant transporting an infant should be free of other passengers.

Nursery Care

Environment

Space.

The amount of space needed for the care of the infant is discussed under Nurseries, page 3.

Control of temperature and relative humidity.

It is recommended that the temperature of the nurseries for full-term infants be controlled at about 80° F., day and night, and that the relative humidity be about 50 percent.

For premature infants higher temperature and greater relative humidity may be required. A separate air-conditioned nursery is desirable, but if this is not to be had, proper environmental conditions may be obtained for them by the use of incubators. It is recommended that before an incubator is made or selected, the specifications published by the National Bureau of Standards and the Children's Bureau be consulted. (See footnote 1, p. 6.)

Observation and Examination

The newborn infant should be seen by the head nurse as soon as he is admitted to the nursery. Observations of his condition, as indicated by color, breathing, activity, evidence of bleeding, and so forth, should be made without removing him from his crib.

A physician should see at once every premature infant and any infant in whom the nurse has observed any abnormality.

Every infant should receive a complete examination by a physician as soon as, in his judgment, the infant's general condition warrants it. The examination should be conducted in such a way that the infant's body heat will be conserved.

It is recommended—

That full-term infants be examined by the physician in an anteroom to the nursery, especially equipped for examinations.

That premature infants be examined by the physician in the nursery, the infant remaining in the heated bassinet or incubator during the examination. If treatment of a premature infant is necessary, this also should be done with the infant remaining in the heated bassinet or incubator, if possible.

Special Measures To Protect Infant From Infection

The infant should be cared for in such a way as to guard him against infection. No infant born outside the hospital should be admitted to the nursery for infants born in the hospital. Visitors should be excluded from the nursery.

It is recommended that care be given to each infant at the bedside, with strict aseptic technique. *Common bathing and dressing tables should not be used.*

Hand-washing technique.

Strict hand-washing technique should be maintained by physicians and nurses. Hands should be washed with soap and running water before and after handling, diapering, or feeding each infant. It is especially important that the nurse wash her hands *after* diapering the infant and *before* feeding him. If this technique is to be carried out it is essential that lavatories be conveniently located inside each nursery as well as in each service room.

Gown, cap, and mask technique.

Gowns.—A gown should be worn by anyone working in the nursery. Fresh gowns should be provided daily.

Caps.—If the use of caps is required by the medical staff, they should completely cover the hair.

Masks.—If the use of masks is required by the medical staff, they should be so made that they are effective in preventing droplet infection and they should be changed frequently—at least every 2 hours.

Suspect cases.

Any infant who has such symptoms of infection as loose stools, frequent stools, or fever, or who has eye, skin, vaginal, or other infection, should be removed to the suspect nursery without delay. The head nurse should have the authority to order this on her own responsibility. If the infant is found to have an infectious condition, he must be transferred promptly to an isolation nursery elsewhere in the hospital.

Ritual circumcisions.

Provision should be made to have ritual circumcisions performed elsewhere than in the nursey unit. Aftercare should be given in the suspect nursery because of danger of infection.

General Care

Care of skin.

The proper care of the skin of newborn infants is important in preventing infection. At present the consensus seems to be that the less manipulation the less danger of infection. It is recommended that no water or oil bath be given during the first week or 10 days after birth, and it may be wise to postpone the premature infant's bath for considerably longer. The vernix may be gently wiped away from the folds of the infant's skin with warm sterile mineral oil on sterile cotton or soft sterile gauze. Each time the diaper is changed, sterile oil should be applied to the soiled or wet areas of the skin.

The oil for the infant's skin should be kept in a sterile glass container. Before oil is applied, a small amount should be poured into a dish into which a piece of cotton can be dipped easily. Any oil remaining after use should be thrown away.

Care should be exercised to keep the cord dressing and umbilical area sterile. The binder used to hold the cord dressing in place should be made of soft, sterilized gauze.

Diapers and other clothing.

It is recommended that only one piece of clothing besides the diaper be worn—a gown open in the back—cotton in summer, flannel in winter. The diaper should be of soft material.

For premature infants under suitable environmental conditions, the same type of gown should be used. Diapers should not be used for premature infants; a small pad of absorbent cotton or disposable tissue, covered with gauze, should be placed under the infant to serve as a diaper.

A 24-hour supply of clothing should be kept at the bedside.

Bedclothes.

A 24-hour supply of bed pads, sheets, and blankets should be kept at the bedside.

Taking infant's temperature.

It is recommended that each infant's thermometer be kept at the bedside in a suitable container.

It is recommended that consideration be given by the medical staff to taking the temperature by axilla in suitable cases.

It is recommended that in suitable cases (normal infants) the temperature be taken not oftener than twice a day.

Weighing infant.

Each infant should be weighed in his blanket at the bedside. The scale pan should be freshly covered with paper for each infant. It is recommended that the scales be kept on a table with wheels, so that they may be moved easily from bassinet to bassinet.

It is recommended that well infants be weighed daily for the first 4 days; then only every other day, or, in some cases, only twice a week.

Feeding

It is recommended that efforts be made to have every mother of a full-term infant nurse him. The efforts should include encouraging the mother's cooperation, withholding artificial feeding even in the presence of early weight loss (provided this is not excessive), giving only water until the mother's milk begins to come or until it is evident that the mother is not going to be able to supply an adequate amount of breast milk.

It is recommended that no premature infant be put to the breast without an order from the resident physician. It is recommended that for premature infants every effort be made to maintain the mother's milk supply and to have the infant nurse as soon as he is physically able.

Whenever any infant is being fed from a nursing bottle the bottle should be held, not propped.

Technique of breast feeding.

Preparation of mother.—It is recommended that the nursing mother wear a nightgown that opens in front; that her hands be washed with soap and water before nursing and her breast be washed before and after nursing; that the baby lie on a clean paper or cotton towel during nursing; that all visitors, even members of the family, be excluded while the mother is nursing the infant.

Transportation of infant to mother.—The infant should be wrapped in a blanket and carried to the mother by a nurse who wears a gown and a mask, or wheeled in his own bassinet.

Expression of breast milk.—If an infant cannot nurse, particularly a premature infant, the mother's milk should be expressed and fed to him. Since

opinions vary in regard to techniques for expressing breast milk and for storing it, those approved by the medical staff should be set down in writing and closely followed.

Milk mixtures.

The formula for the milk mixture ordered by the physician for each infant should be in writing, and any changes should also be in writing.

The 24-hour supply of milk mixture should be stored in the milk room.

The bottles for each feeding, with sterile nipples and sterile caps on them, should be sent to the nursery from the milk room at the feeding hours.

Milk mixtures should *not* be poured into nursing bottles from a larger utensil in the nursery or in the workroom.

There should be provision for warming the bottles in the nursery unit.

Nipples should *not* be handled by the nurse who feeds the infants.

Used bottles, nipples, and caps should be returned to the milk room after each feeding.

Drinking water.

It is recommended that sterile water be given to normal infants between feedings at least twice a day; in very warm weather oftener.

Supplies

Equipment for special treatments.

It is essential that a suitable suction device, a supply of oxygen, and suitable apparatus for administering oxygen, be always at hand.

It is recommended that special needles, tubing, glassware, and other equipment suitable for use for newborn infants be kept in the workroom in sterile packages, ready for emergency use for infusions, transfusions, lumbar punctures, and so forth.

Linen.

Clean linen should be delivered to the nursery unit each morning in an amount to last 24 hours.

It is recommended that the supply of linen for each infant be prepared in the laundry in three packages: (1) diapers, (2) bed clothes, (3) clothing.

Oil.

Fresh sterile oil should be supplied daily in small glass sterilized containers.

Cleaning Nursery Unit

No dry dusting or cleaning in a nursery unit should be allowed; walls, floors, and ceiling, as well as furniture and other equipment, should be washed. Maids should wear gowns, caps, and masks while cleaning.

Care of Soiled Linen

It is recommended—

That soiled diapers be placed in a special diaper can, separate from the hamper for soiled clothing and bed linen.

That all soiled linen be collected at least twice a day—preferably oftener.

That the diaper can and the soiled-linen hamper be put outside the nursery by the nurse so that the collector need not enter the nursery.

That diapers and other soiled linen be taken to the laundry without being removed from their respective containers.

That diapers and other soiled nursery linen should be washed separately from each other and from other hospital linen. Special care is needed in the washing so that the garments will remain soft and will be free from any substance that might irritate the infant's skin, such as strong soap or chemical.

Rules for laundering—making up the packages, sterilizing (preferably by autoclave), and delivering them to the nursery—should be worked out with the medical, nursing, laundry, and administrative staffs of the hospital. (See also Supplies, p. 13.)

Records

It is recommended—

That there be a clinical record for the infant, separate from the mother's.

That the mother's hospital number be entered on the infant's record so that information pertinent to the infant's welfare will be available in regard to the circumstances of pregnancy, labor, and delivery.

That complete daily records of the infant be kept—medical and nursing.

Preparation for Discharge

Before she leaves the hospital the mother should be instructed in regard to the care of her infant, including maintenance of her breast-milk supply. For mothers who need such services, arrangements should be made with a public-health-nursing agency for early and continued instruction of the mother at home.

Consideration should be given to the home situation (including a visit to the home if necessary), in regard to such matters as—

The health of the other persons living in the home.

Whether the mother will be able to care for the infant herself.

Whether the housing arrangements are suitable for care of the infant.

Whether the parents are financially able to provide proper food, clothing, and other essentials for the infant.

If the home situation is unsuitable for the infant, arrangements should be made with a family-service agency or other agency to assist in preparing the home for the infant and to help in making necessary adjustments.

If, after discharge from the hospital, the infant is not to continue under the care of the same physician who cared for him in the hospital, the family physician or a community agency should be notified that the infant is to be discharged, so as to insure continuous medical supervision for the infant, including supervision of diet and hygiene, and medical care.