

HOME OFFICE
AIR RAID PRECAUTIONS DEPARTMENT

ANTI-GAS PROTECTION
OF BABIES AND
YOUNG CHILDREN

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CONTENTS

	<i>Page</i>
GENERAL MEMORANDUM	I
Description of the Small Child's Respirator ...	1
Description of the Baby's Protective Helmet ...	3
The Choice of the right Protective Device ...	4
INSTRUCTIONS FOR USE OF BABY'S PROTECTIVE HELMET	6
INSTRUCTIONS FOR USE OF SMALL CHILD'S RESPIRATOR	7

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MEMORANDUM ON THE ANTI-GAS PROTECTION
OF BABIES AND YOUNG CHILDREN

1. The small size of ordinary Civilian Respirator will, in general, fit children down to 4-5 years of age. Below that age anti-gas protection cannot be achieved by a respirator of such simple design as that of the General Civilian Respirator chiefly on account of the undeveloped state of the faces and the absence of the obedience which is developed in later years.
2. A special design of respirator, known as the Small Child's Respirator, will be provided for young children below the age of 4-5 years. It will fit and completely protect children down to at least 2 years of age and in some cases even younger if their faces are well developed.
3. For babies whose faces are too small for the Small Child's Respirator and for those young children who may be temperamentally unsuited for wearing a respirator, the Protective Helmet will be supplied. This device will, in fact, provide complete protection for any child between the age of birth and school age. Its use necessitates the attention of an older person for the provision of air by means of a pump, so it is preferable not to resort to its use for children whose faces are large enough for a respirator unless it is quite certain that they are unsuitable subjects for wearing a respirator.

4. The Small Child's Respirator.

An attempt has been made in the design of this respirator to make it as acceptable as possible to young children. The colours have been made attractive; it has been made as light in weight as possible; the head harness will not weaken in use, it is soft in its pull on the facepiece and is so designed that it prevents the respirator from being easily pulled off. Since a child breathes much less air than an adult, a less bulky and lighter container than that of the ordinary Civilian Respirator has been included. The rubber of which the facepiece is made has been tested on a large number of children and proved to be non-irritant to the skin.

It is very important with young children, especially when they are below school age, that the respirator should be introduced to them in the manner which is most likely to win their interest and collaboration in wearing it. The mothers are in general the best judges in this matter. With most children its introduction as a play object is the best means of approach, and it is generally of advantage to introduce it to a small group of children together. In some cases a measure of firmness is required, but whichever method is adopted the aim should be to obtain ready obedience to wear the respirator in an emergency. If the child is antagonized it may become actively resistant and so prevent the respirator being put on at all.

The respirator is put on in the same way as the adult respirator. Many children quickly learn to put it on themselves if they are shown how to thrust the chin forward into it. If it is put on by a second person it is better to do it from behind, with the back of the child's head resting against the chest so that the neck is supported to resist the action of pulling the spring harness over the head. Instructions for use will be found on page 7, and a copy of this pamphlet will be packed with each respirator.

When the respirator has been put on, the child breathes in a natural way. The container causes only a negligible resistance to the child's breathing and the air breathed out passes out of the facepiece through a soft rubber valve which opens easily and freely under the pressure of the breath.

The facepiece is made of soft rubber so that it readily takes the shape of the child's face and makes close contact with the skin. The head harness is suitable for all sizes of heads without the need for adjustment. If the respirator is properly put on with the harness secured by means of the hook and eye at the back, the fit of the respirator is automatically ensured if the child's face is of the correct size for it, and the close contact between the rubber and the face can clearly be seen. The commonly adopted expedient for testing the fit of adult respirators, consisting of closing the inlet holes of the container while the wearer

breathes in and so causes the facepiece to be sucked in against the face, is not necessary for confirming the fit of the Child's Respirator, and is not recommended.

The liability of young children to attempt to remove the respirator if they become tired of wearing it must be recognized, and in time of war some simple form of restraint for the arms may be necessary where circumstances do not permit of the person in charge of a young child giving it close attention; for example, where an adult is responsible for more than one child.

5. The Protective Helmet.

The Protective Helmet was adopted after full consideration of all types of possible device which would meet the conditions required of an appliance for use during an air raid on either a baby or young child.

The Helmet consists of a hood, made of impervious fabric and fitted with a large window, which encloses the head, shoulders and arms, and is closed around the waist by means of a draw tape. A baby when in it is thus able to get its hand to its mouth. The hood is surrounded by and fastened to a light metal frame, which is lengthened on the underside and fitted with an adjustable tail-piece, so as to form a support and protection for the baby's back. The tail-piece is turned up at the end to form a seat which prevents the occupant from slipping out of the hood. The baby or child is made secure in the Helmet by means of a T-shaped supporting strap connected to the end of the tail-piece. The metal frame and supporting strap may be varied in length to suit all sizes of babies and children up to about five years of age.

The hood is padded on the underside where the baby rests. Padding has been omitted from the tail-piece since babies are likely to soil any padding in this position. If required, mothers can supply some washable padding, e.g. a folded towel or napkin for this part of the frame.

Folding legs are provided on the metal frame for use when the Helmet is not being carried or held. The legs will prevent the Helmet from rolling over if it is laid down with a child in it, and they are for use when a baby is being put into the Helmet.

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Air is supplied to the inside of the hood by means of a rubber bellows placed conveniently for the right hand. The air passes through a container which removes all poison gas from it, and enters the hood at the top through a specially shaped orifice which deflects the air upwards so that it sweeps out all vitiated air from the hood and also prevents the stream of air from blowing directly on to the baby's head. A slow and steady rate of pumping of about forty strokes a minute is adequate for keeping out gas and supplying enough air even for a child of 4-5 years of age. The space in the hood is large enough to allow pumping to be stopped for several minutes if required without causing discomfort. There is no limit to the time during which a child may remain in the Helmet if the steady pumping is carried out.

A baby or child can easily and quickly be put into the Helmet, and once inside, it can see and be seen by its mother, and can either be carried or can be seated on the mother's knee in a natural position. For carrying, it is convenient to support the weight by means of a shawl or broad band round the shoulders, and mothers should be encouraged to consider this point for themselves.

Most babies and children quite readily take to the Helmet and soon become accustomed to being inside, in fact it is common for them to go to sleep. In the case of young children who are rebellious of control it is possible for one adult quickly to place the child in the Helmet and thus to protect it from gas in spite of its resistance. Once inside, such children usually cease to resist and appear contented.

Full instructions on how to use the Helmet, together with advice on its care, will be found on page 6, and a copy of this pamphlet will be packed with each Helmet.

6. How to decide which protective appliance should be used for a young child.

Young children may be protected either by (1) the Small Size General Civilian Respirator, (2) the Small Child's Respirator, or (3) the Protective Helmet, according to their temperaments or the size of their faces.

The choice of the correct appliance to use must be

made separately for each child, but as a general guide for assessing the number of each appliance required the following rough approximation may be used:—

Babies from birth to 2 years of age	The Protective Helmet.
Young children of 2 to 4½ or 5 years of age	The Small Child's Respirator.
Children above 4½ or 5 years of age	The Civilian Respirator (Small Size).

In practice there is considerable overlapping of the ages in each category and it must be impressed on all concerned with the fitting of respirators for children that the choice of appliance depends solely on the facial size and on the child's temperament.

In fitting young children, if their ages are between about 18 months and 4½ or 5 years the following procedure is to be adopted:—

- (i) First try a Small Child's Respirator using the technique and method described.
- (ii) If the child's eyes are very high in the eyepieces or if the head harness can be stretched over the head only with difficulty the respirator is too small. A Civilian Respirator (small size) should be issued.
- (iii) If the facepiece puckers at the edges or is loose on the face, or the eyes are very low, the child's face is too small for a respirator and a Protective Helmet will be required.
- (iv) If after all methods of persuasion have been tried the child refuses to tolerate the respirator, or if it becomes unduly frightened when the respirator is worn, a Protective Helmet may have to be used, but it should be remembered that it may be possible to remove the child's fear by persuasion on later occasions. It has been found that the sight of other children wearing respirators will often inspire confidence in nervous children.

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BABY'S ANTI-GAS PROTECTIVE HELMET

INSTRUCTIONS FOR USE

The Helmet is suitable for use either on a baby or on a young child.

1. The baby is laid in the Helmet with its seat resting in the turned up end of the metal tail-piece.
2. The tail-piece is fixed to the frame by two screws, and it can be varied in length to suit the size of the child. The length should be adjusted so that the baby's face is opposite the middle of the window. The screws may be turned by means of a penny.

(NOTE.—The frame can be made extra long if required by overlapping the tail-piece on the last two screw holes only and using an extra screw and nut in the hole which has no fixed nut. A spare screw and nut for this purpose will be found on the domed top of the frame.)

3. To put the baby into the Helmet, proceed as follows:—

- (i) Open the wire legs of the Helmet and click them back.
- (ii) Lay the Helmet down, open the skirt of the bag and turn the top of it back over the window. See that the supporting piece (i.e. the wide strap attached to the turned up end of the metal tail-piece) is out of the way so that the baby will not lie on it.
- (iii) Place the baby in the Helmet so that its seat rests in the curve of the tail-piece with one leg on each side.
- (iv) Then pull down the skirt of the bag over the baby and see that both of its arms are up inside the bag. Tie the ends of the draw tape together once and draw the tape tight round the waist. Finish off by tying the ends in a bow.

To keep out gas it is not necessary to draw the tape round the waist extremely tight and it must not be tied so that it will cause discomfort.

- (v) Bring the supporting piece up between the legs and attach the ends of the canvas strap to the buckles on each side of the frame so as to hold the baby firmly in place.

(NOTE.—If the frame is being used in one of the shorter positions of adjustment it may be necessary to shorten the supporting piece in order to hold the child secure. This may be done by folding down the top end either once or twice as required and passing the ends of the canvas strap out through the metal slots.)

- (vi) When the baby has thus been safely secured in the Helmet, commence to use the hand pump. First give at least twelve sharp strokes on the pump to clear out the air in the Helmet and then continue to pump at a slow and steady rate. A rate of between 35 and 45 strokes in a minute is quite fast enough to keep out all poison gas and to provide plenty of air even for a child of 3-4 years of age. An unnecessarily fast rate of pumping will prove tiring if kept up for a long time.

The space inside the Helmet is large enough to provide sufficient air for a child for several minutes, so pumping can safely be stopped for short periods when necessary. Poison gas in an amount which will do any harm will not enter the Helmet during periods when pumping is stopped.

SMALL CHILDREN'S RESPIRATOR

INSTRUCTIONS FOR PUTTING ON

To put the respirator on to a child:—

1. Stand the child in front of you with its back towards you so that its head rests against your body.
2. See that the hook and eye on the head harness straps are undone. Put your left thumb under the bottom and middle straps on the left side of the head harness, and your right thumb under the bottom and middle straps on the right side, and hang the respirator from your two thumbs.
3. Catch the chin of the respirator under the child's chin and then stretch the head harness over the head.
4. See that the respirator is straight on the child's face and that the chin is properly in position. Then join the hook and eye on the two bottom straps to secure the respirator in place.

(NOTE.—Most children quickly learn to put on the respirator themselves. They should be taught to do it in the way described above.

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