vitamin angels®

Reference Manual for

Administration of Vitamin A Supplements

in Universal Distribution Projects

A Technical Document from Vitamin Angels®

Our mission to is to help at-risk populations in need - specifically pregnant women, new mothers, and children under five - gain access to life changing vitamins and minerals.

Preface

Vitamin Angels is a leading partner in the efforts to eliminate the death and disease associated with micronutrient deficiencies, especially vitamin A deficiency among neonates, infants and children. We mobilize and deploy private-sector resources to increase the availability, access and use of micronutrients – including vitamin A – by at-risk infants and children in need.

An estimated 190 million children under five years of age suffer from vitamin A deficiency (VAD), which is a major underlying cause of child morbidity and mortality. We aim to reduce under-five child morbidity and mortality in at-risk populations by providing children with the necessary vitamin A.

Vitamin Angels works to support "universal distribution" and "targeted distribution" of vitamin A in countries defined by the World Health Organization (WHO) as experiencing moderate to severe vitamin A deficiency. This manual provides information that is essential to think about when planning and implementing effective universal or targeted distribution of vitamin A supplements. The focus of this manual is to provide guidelines and technical information to aid in establishing "universal distribution" projects for vitamin A supplementation. To a limited extent this document also provides guidance about "targeted distribution" of vitamin A to high-risk groups.

This manual is designed for people responsible for managing and delivering health care services who seek to incorporate the distribution of vitamin A into regular activities associated with community or facility-based health care. It has been produced in such a way that each section may be removed for individual use, and may be reproduced in whole or in part according to user needs, as long as this is not for commercial purposes.

In initiatives for either universal or targeted distribution of vitamin A supplements, it is likely that those who distribute vitamin A will encounter infants, children, and women who require treatment with vitamin A for measles and xerophthalmia (or more serious ocular conditions). Information contained in this Reference Manual is NOT intended as a guide to the diagnosis and treatment of these or other conditions. However, some guidance is provided for non-health care workers to help them better understand if an infant, child, or woman should be referred to a qualified health care practitioner for evaluation for conditions that might require treatment with vitamin A. As a convenience, we have inserted current treatment schedules for certain common conditions that require treatment with vitamin A; but in all circumstances, seek and follow advice of local health care practitioners.

Vitamin Angels gratefully acknowledges the use and adaptation of materials from the Pan American Health Organization (PAHO), the Micronutrient Initiative (MI), and the WHO for inclusion in this Reference Manual. These sources are:

1. Pan American Health Organization (2001). Providing vitamin A supplements through immunization and other health contacts for children 6–59 months and women up to 6 weeks postpartum: A guide for health workers, Second edition.
2. Micronutrient Initiative (2007). Vitamin A in child health weeks: A toolkit for planning, implementing, and monitoring.
3. WHO (1998). Distribution of Vitamin A during national immunization days: WHO/EPI/GEN/98.06.

Contents

1 An Introduction to Vitamin A

About this Chapter

Vitamin A is an essential nutrient that we obtain from a range of foods and supplements and store in our bodies. We all need it to protect our health in a number of ways.

This chapter explains what vitamin A is and why it is so important for all of us. It shows us the best sources of vitamin A in our diet and explains why it is particularly important for some parts of the population, such as infants, children, and lactating mothers.

The chapter also tells us what happens when our body's reserves of vitamin A are low. In addition, it looks at what happens when we suffer from vitamin A deficiency – and why we need to ensure that this is prevented and controlled.

Next, the chapter introduces the concept of supplements, and when, why and how often we need to take them. Finally, it summarizes how vitamin A can help protect our health.

What is Vitamin A?

Vitamin A, which is also known as retinol, is an essential, fat-soluble nutrient. It is stored in our body's organs – mainly in the liver. When our bodies need it, it is released into the bloodstream. This makes it available for cells to use it throughout the body.[1]

Because our bodies do not make vitamin A, we can only get it from external sources.

Dietary Sources

Vitamin A occurs in two forms, as (1) preformed vitamin A and as (2) carotenoids. Preformed vitamin A is naturally present in some foods including:

- **milk fat, butter, cheese, and breast milk**
- **liver and fish liver oils.**

Breast milk is a good source of preformed vitamin A, which is why breastfeeding is an important source of vitamin A for newborns and infants.

In addition, preformed Vitamin A is deliberately added to many foods known as "fortified" foods. These include ready-to-eat cereals, snack foods, margarine, and processed dairy products. These foods provide a major dietary source of preformed vitamin A to the people who are able to obtain them.

Carotenoids are another source of vitamin A. Generally found in plants, these nutrients are converted into vitamin A in the body. Sources of carotenoids include:

- **dark green leafy vegetables**
- **deeply colored yellow and orange fruits and vegetables**
- **egg yolk.**[2,3]

However, converting carotenoids into vitamin A in the body is not very efficient. As a result, it is almost impossible for most young children from poorer families in the developing world to meet their vitamin A requirements simply by eating vegetables and fruits.[3]

Who Needs Vitamin A and Why

Vitamin A is an essential nutrient required for maintaining eye health and vision, growth, immune function, and survival.[4] We all need vitamin A to protect and promote our health.

Vitamin A is especially critical for growing infants, children, and lactating women:

- **Women who breastfeed need vitamin A to help them stay healthy, and to pass on vitamin A to their infants through breast milk.**
- **Once they have been weaned, infants and young children need to eat foods that are rich in vitamin A. This should be as part of a nutritious complementary feeding program. Eating vitamin A-rich foods helps them grow, develop normally, and stay healthy.**

Vitamin A Deficiency (VAD)

Our bodies cannot make vitamin A. As a result, all the vitamin A that we need has to come from what we eat.

Our bodies can store any extra vitamin A we eat for as long as four to six months. This means that we have a reserve for times of need.

When the reserve supplies in the body are low, however, and if we do not eat enough foods containing vitamin A to meet our body's needs, we suffer from vitamin A deficiency. This is also known as VAD.

- **VAD has many adverse health effects. Some problems, including infections, also become more severe when we lack vitamin A.[2]**
- **VAD is a significant public health problem. It affects an estimated 190 million preschool age children and 19 million pregnant women around the world.[5]**
- **VAD is a major contributor to child mortality. This is why reducing it is an essential element of child survival programs.**
- **Likewise, we need to ensure that pregnant women have an adequate intake of vitamin A. This is an essential element of maternal health and survival programs in areas where deficiency is likely.[6]**

It is critically important that we continue to make intensive efforts to prevent and control VAD

Supplements

Infants and young children may not be able to eat enough high-quality food to provide the amount of vitamin A they need. If this is so, they can be given a high-dose form of vitamin A by mouth. When vitamin A is administered in this way, it is called 'vitamin A supplementation (VAS).'[2]

Because vitamin A is stored in the liver, we only need to give high-dose vitamin A supplements once every four to six months

Supplements are low-cost, highly effective and relatively easy to implement

in order to prevent VAD in children.[7]

Supplementation is a low-cost and highly effective way to improve the vitamin A status of children and other population groups. It is a relatively easy intervention to implement, rapidly, on a national scale.[6]

Sometimes fortification of foodstuffs is not yet established, or population sub-groups cannot obtain fortified foods. If so, supplementation with vitamin A is an efficient and cost-effective way to ensure that vulnerable people have the vitamin A they need. This remains the case even if supplementation needs to be continued for a number of years.

Vitamin A is typically available in the form of a capsule that contains a single dose of vitamin A in an oil form. Each capsule has a narrow end that should be cut off. This allows the contents of the capsule to be "squirted" into the mouth of the intended recipient.

In a few countries, vitamin A supplementation is available as a syrup.

There are no health conditions or illnesses that prevent someone from being given vitamin A, except if a child is experiencing respiratory distress and is unable to breathe.

Children who are sick, especially with measles or xerophthalmia, and who appear for vitamin A supplementation, should be given vitamin A immediately.

All sick children must also be referred to a health facility for further evaluation, and possible additional treatment.[8, 9]

Protecting Our Health

Vitamin A helps to protect our health in several ways:[2]

Increasing Chances of Survival

When children 6–59 months of age receive adequate amounts of vitamin A, they are considerably more likely to survive an infection.[4] Their risk of dying from diarrhea is reduced by about 28%, while their overall risk of dying is reduced by 12–24%.[10]

Reducing the Severity of Infections

Vitamin A plays a very important role in the immune system. It is critical in helping the body resist infection and disease. It also helps to decrease the severity and incidence of many childhood infections, such as diarrhea (15%) and measles (50%).[6, 10]

Promoting Growth

Vitamin A is necessary for growth. Young children have a special need for vitamin A because they are growing rapidly. Pregnant women need vitamin A to help the growth of their unborn child. Women also need vitamin A after birth, to protect themselves and to help their growing infant.[2]

Protecting Eyesight and the Eyes

Vitamin A is vital for the proper functioning of the eye. The transparent part of the eye, the cornea through which we see, is protected by vitamin A. If there is shortage of vitamin A, it may be difficult to see in dim light, a condition commonly called night blindness. A severe shortage of vitamin A may result in blindness.[3] Vitamin A deficiency is the leading cause of preventable blindness in children.[11]

Preventing Anemia

Vitamin A works to reduce anemia by facilitating the transport and use of iron. Interventions that control vitamin A deficiency have the potential to help control anemia induced by either undernutrition or infection.[12]

Points to Remember

- Vitamin A is a nutrient which is stored in our bodies.
- All the vitamin A that we need has to come from what we eat. Natural sources of vitamin A include breast milk, milk fat, butter, cheese, liver, and fish liver oils.
- Dark green leafy vegetables, deeply colored yellow and orange fruits and vegetables, and egg yolk are also sources of carotenoids, which our bodies convert into vitamin A.
- Vitamin A protects and promotes everyone's health by increasing our chances of survival, reducing the severity of infections, promoting growth, promoting eyesight and the eyes, and preventing anemia.
- Vitamin A is especially critical for growing infants, children, and lactating women.
- When our reserves of vitamin A are low, and if we are not eating enough foods containing vitamin A, we suffer from vitamin A deficiency. This is also known as VAD.
- VAD has many adverse health effects. It is a significant health problem: It impacts child mortality rates and maternal health.
- Infants and young children can be given a high dose of vitamin A by mouth, which is known as vitamin A supplementation.
- Vitamin A supplements are an efficient and cost-effective way to ensure adequate intake of vitamin A among vulnerable populations.
- Vitamin A usually comes in capsules containing a single dose of vitamin A in an oil form.
- There are no health conditions or illnesses that prevent an individual from being given vitamin A except if a child is unable to breathe.

2 Maximizing Intake of Vitamin A

About this Chapter

Chapter 2 points out which ordinary foods are good sources of vitamin A. It explains why it is a good idea to eat these foods every day. It also explains which foods are good sources of carotenoids.

The chapter also explains why you should introduce foods from animal sources into people's diets. In addition, it explains why growing fruits and vegetables at home is useful. It then looks at how you can enjoy a varied diet throughout the year.

The chapter then explains how to prepare your food in a way that increases vitamin A intake. It includes a list of cooking and storage tips.

Finally, Chapter 2 features a table, which shows the common food sources of vitamin A. The table includes details of each food's vitamin A concentration, based on various measures.

Sources of Vitamin A in Ordinary Foods

You need to eat a variety of nutritious foods every day, as this increases the amount of vitamin A in your diet. Vitamin A can be derived from:

- **Meat.**
- **Fish.**
- **Breast milk, milk and dairy products.**
- **Plant foods.**

Carotenoids, which are precursors that change into vitamin A in the body, are present in:

- **Dark green vegetables.**
- **Orange-colored fruits.**
- **Orange-colored vegetables.**

The body uses vitamin A from animal sources and breast milk better than it uses carotenoids from plant sources. If you can, it is a good idea to encourage or introduce the use of animal sources of vitamin A, such as eggs, into people's diets.[1]

Home fruit and vegetable gardens help provide better access to a variety of vitamin A-rich foods.

You can eat preserved, dried and fortified foods when fresh fruits and vegetables are temporarily unavailable. This helps you make sure that you are having a varied diet throughout the year.

Preparing Food

By preparing your food correctly as explained next, you can significantly increase your intake of vitamin A.[2]

- **Cut, shred or grind vegetables into small pieces**
- **Add a small amount of oil or fat to the meal (½ to 1 teaspoon) during mixing and preparation.**
- **Boil or steam vegetables for a short period of time. It's best to keep a lid on the pot**
- **Avoid cooking vegetables for a long time at high temperatures**
- **Eat your food as soon as you have prepared it**
- **Do not allow cooked food to sit for extended periods of time**
- **Store fresh fruits and vegetables in a cool, dry place. Keep them out of sunlight**
- **Sun-dry fruits and vegetables to store and preserve them**

Vitamin A Content of Common Foods [3]

Food	Weight (g)	Common Measure	µg RE
Mature breast milk ≥ 21 days postpartum[4]	-	-	500 µg RE/L
Beef liver, cooked, pan-fried	226.66	1 cup	17,552
Chicken, broilers or fryers, giblets, cooked	145	1 cup	2,542
Sweet potato, cooked, baked in skin	146	1 potato	1,403
Sweet potato, cooked, boiled, without skin	156	1 potato	1,228
Spinach, cooked, boiled, drained	180	1 cup	943
Carrots, raw	110	1 cup	919
Cantaloupe, raw	160	1 cup	270
Romaine or cos lettuce, raw	56	1 cup	244
Sweet red pepper, raw	149	1 cup	234
Egg, whole, cooked, fried	92	2 large	182
Papaya, raw	304	1 papaya	167
Papaya, raw	304	1 papaya	167
Whole milk, raw	244	1 cup	112
Mango, raw	207	1 mango	79
Red tomato, raw	180	1 cup	76
Apricot, raw	70	2 apricots	68
Avocado, raw	226.8	1 cup	16
Cucumber, with peel, raw	301	1 large	15
Oranges, raw	131	1 orange	14

Points to Remember

- Eating a variety of foods every day helps increase the amount of vitamin A in your diet.
- You can find vitamin A in meat, fish, milk and dairy products, and plant foods.
- Carotenoids are precursors that change into vitamin A in your body.
- You can find carotenoids in dark green, leafy vegetables, and in orange-colored fruits and vegetables
- Animal products and breast milk are the best sources of vitamin A.
- Home fruit and vegetable gardens can be a good source of vitamin A-rich foods.
- Drying fruits and vegetables helps ensure a supply of vitamin A-rich foods throughout the year.
- Preparing and cooking food correctly makes a big difference to how much vitamin A you consume.
- Eat your food as soon as you have prepared it. Do not leave it sitting around for an extended period of time.
- Storing food correctly also significantly helps increase your intake of vitamin A.
- The table opposite also shows which foods are especially rich in vitamin A.

Recommended intake for vitamin A[5]

Group	(ug RE/day)
Infants 0- 6 months	**375**
Infants 7-12 months	**400**
Children 1- 3 years	**400**
Children 4- 6 years	**450**
Pregnant women	**800**
Lactating women	**850**

3 When to Give Vitamin A Supplements

About this Chapter

Vitamin A is important for the health of both infants and young children.

This chapter sets out the different ways to administer vitamin A. These include universal and targeted distribution, and treatment.

The chapter explains universal and targeted vitamin A distribution, how they work and when they are best used.

Chapter 3 also shows how to calculate how much vitamin A to use in a distribution program. It provides a method which field workers can use to calculate the right amount of vitamin A to supply to infants and young children. This includes the calculations for 100,000 IU and 200,000 IU capsules.

Finally, the chapter gives details of what to do when a distribution program includes children or women of childbearing age who have Bitot's spots or active xerophthalmia.

How to Administer Vitamin A?

Because Vitamin A is so important for the health of infants and young children, WHO and UNICEF recommend that it should be administered in three ways:[1]

- **universal distribution programs**
- **targeted distribution programs**
- **treatment**

This chapter explains the ways in which these three programs are administered.

Universal Distribution

Technical advisory groups recommend that vitamin A should be distributed universally within a given geographical region to all infants and young children who are 6–59 months old.[2,3] This is an effective way to prevent vitamin A deficiency (VAD) in this age group.

Countries are classified by WHO/UNICEF according to their VAD status. VAD public health problem classification categories are: none, mild, moderate or severe.[4]

Countries classified by WHO as having either a moderate or severe public health problem with VAD have been identified as priority countries for universal distribution of vitamin A.

As of 2009, 122 countries are classified as moderate or severe, and are priorities for universal distribution of vitamin A. They are highlighted in the table in Appendix A on pages 46 – 50.

Supplementation programs are often thought to be an interim solution, which is only required until fortified foods are in widespread use. However, more and more organizations believe that vitamin A supplementation programs offer a practical long-term solution in the battle against VAD.

Targeted Distribution

Targeted distribution uses vitamin A supplementation as an effective way to prevent VAD in high-risk groups. Groups with an increased risk of VAD include:

- **children suffering from protein-energy malnutrition or a childhood infection (such as measles, diarrhea, respiratory disease, or chickenpox);**
- **siblings of children with protein-energy malnutrition or a childhood infection;**
- **siblings of children with xerophthalmia;**
- **children living in the same village or community as children who are suffering from protein-energy malnutrition, a childhood infection, or xerophthalmia; and**
- **groups of people who are at very high risk, such as refugees or other populations who are suddenly cut off from regular food supplies or who are living in famine conditions.**

Treatment for Night-Blindness and Xerophthalmia

Although this Reference Manual does not cover how to diagnose or comprehensively treat people who are sick, vitamin A supplementation is recommended for the treatment of specific medical conditions. These include, but are not limited to, people who have night-blindness or xerophthalmia.

How Much to Use[5]

The calculations below are a way of estimating the amount of vitamin A supplies that are needed for every 1,000 members of the population in a universal distribution program. They assume that all of the children who live in an administrative jurisdiction (such as a district or province), and are 6–59 months old, will be dosed with vitamin A.

How to Calculate How Much Vitamin A is Needed for a Universal Distribution Program

For every 1,000 people, assume that:

- **15** (1.5%) are infants 6–11 months of age
- **50** (5%) are children 12–35 months of age
- **90** (9%) are children 36–59 months of age

The approximate annual procurement for every 1,000 people means that:

- Number of 100,000 IU capsules needed = 15 capsules
  (15 persons x 1 capsule = 15 capsules)
- Number of 200,000 IU capsules = 280 capsules
  (50 persons x 2 capsules/year) + (90 persons x 2 capsules/year) = 100 + 180 = 280

Treating Bitot's Spots and Active Xerophthalmia

Some distribution programs require sufficient vitamin A to treat people for Bitot's spots and active xerophthalmia.

The following references are a handy guide. They help you compute how much extra vitamin A (200,000 IU formulation) is needed per 1,000 members of the general population:

- **25% of the general population, or 250 of every 1,000 population, are women of reproductive age:**

Assume that 4% of these women will have Bitot's spots = (250 x .04) = 10 women.

Assume each will be treated with one dose.

Thus, to treat women for Bitot's spots, an additional 10 capsules of 200,000 IU vitamin A capsules should be on hand for every 1,000 members of the population.

- **5% of children who are between one and five years old, or seven children, will have one episode of xerophthalmia a year:**

Assume each will be treated with one dose immediately.

Thus, to treat children for xerophthalmia, an additional seven capsules of 200,000 IU vitamin A capsules should be on hand for every 1,000 members of the population.

Points to Remember

- Vitamin A is very important for the health of infants and young children.
- Vitamin A can be administered as part of universal distribution programs, targeted distribution programs or treatment.
- If a country has been classified as having a moderate or severe public health problem with vitamin A deficiency (VAD), it is recommended that universal vitamin A distribution should take place.
- Universal distribution means that vitamin A should be distributed to every infant and young child who is 6–59 months of age, within a given geographical region.
- Universal distribution offers a significant solution to the battle against VAD.
- Vitamin A supplementation also helps prevent VAD illness in high-risk groups, such as refugees or children with infections or malnutrition.
- Supplementation can also help people with xerophthalmia, including those with night blindness and Bitot's spots.
- Using the calculations in this chapter, you can work out how many vitamin A capsules are needed for each 1,000 members of the population in a universal distribution program.
- There are calculations in this chapter that help you work out how many capsules you need to order to treat people with Bitot's spots and active xerophthalmia.

4 How to Administer Vitamin A Supplements in Capsule Form

About this Chapter

It's easy to administer vitamin A – it can be done by skilled health workers and almost all community workers with basic training.[1] Vitamin A can also be administered by trained community volunteers.

This chapter provides a nine step process. It shows field workers how to safely administer vitamin A to infants and children. It explains how to handle, open, dispense and dispose of vitamin A capsules and how to calculate the correct doses for different age groups.

The chapter also gives advice on essential hygiene and infection prevention measures. It includes a practical analysis of risks, good practice and precautions in both community-based settings and out-patient health care clinics for managers who are thinking about holding a universal distribution program.

In addition, the chapter presents details of respiratory hygiene and cough etiquette to control the spread of pathogens from infected individuals. Advice is provided for health workers, children, caregivers, volunteers and visitors, as well as for the managers of vitamin A distribution programs. Finally, the chapter advises on hand hygiene and appropriate hand sanitizer and indications for use.

General Instructions[2,3,4]

Step 1

Check that you know what dose of vitamin A to administer. Doses vary, depending on a child's age. They usually come in color-coded capsules, which contain 50,000, 100,000 or 200,000 IUs of vitamin A. Check the label on the bottles to make sure you know which capsules are available for specific distribution projects. You also need to check the expiration date on the label.

Further reading

For more detailed instructions see the Vitamin Angels Vitamin A Supplementation Learner's Guide.

Step 2

Before you administer vitamin A to infants or children, you need to clean your hands with alcohol-based hand sanitizer or soap and clean water. If you meet a sick infant or child while you are administering vitamin A, you MUST clean your hands each time you have administered a dose.

Step 3

As each child arrives, check their age using the child's health card, and decide which dose of vitamin A you need to give. You can do this by asking the caregiver how old the child is. Alternately, you can observe the child – children who walk are likely to be at least 12 months old.

Step 4

Confirm that the child is able to breathe freely and ask if the child has been given vitamin A in the last month. If the child is able to breathe freely and has not received vitamin A within the last month, you can continue.

Step 5

Ask the caretaker to hold the child. Make sure the child is calm. Select the appropriate dose of vitamin A:

- **100,000 IU to infants ages 6–11 months**
- **200,000 IU to children of ages 12–59 months**

Step 6

Using a pair of scissors, cut open the narrow end of each capsule. Without touching the child, squeeze the correct amount of vitamin A into the child's mouth.

- **DO NOT give the capsule to the child**
- **DO NOT ask the child to swallow or chew the capsule**
- **DO NOT use a needle or bite the capsule to open it**
- **DO NOT give the capsule to the caregiver to administer later**

Step 7

Place each used capsule in a plastic bag or container. Wipe your hands and scissors to clean off oil. To avoid accidental ingestion by children or animals, you can safely dispose of the used capsules by burying or, if possible, burning them.

Step 8

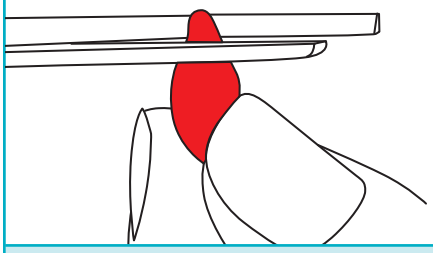
Place one tally mark on the tally sheet or register for each child who has been given a dose of vitamin A. You also need to record the dose on the child's health card, if this is available.

- **DO NOT record the number of capsules or the child's age on the health card.**

Step 9

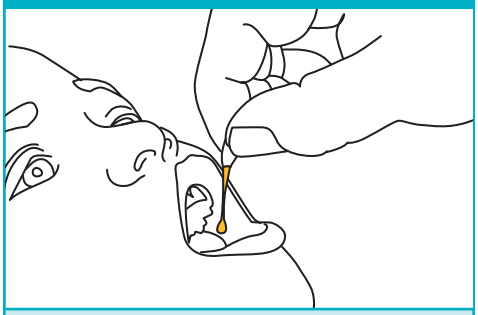
Every day, when you finish distributing vitamin A, make sure you close the bottle. This ensures that the capsules that are left over stay protected from both light and moisture.

Cutting Open a Capsule



- **Cut across the narrow end with a clean pair of scissors.**
- **To avoid finger pricks, do not use pins to open the capsules.**
- **Do not use your teeth to open the capsule.**

Dispensing Vitamin A



- **Squeeze the sides of the capsule firmly. Carefully drop the entire contents into the mouth of the recipient.**
- **DO NOT place the capsule in the infant or child's mouth.**

How to Calculate Dosages if you have only One Type of Capsule

If you are only using 200,000 IU capsules, you need to calculate the number of drops for a half-dose (100,000 IU) for infants aged 6 – 11 months of age. You also need to work out the number of drops you need for a quarter dose (50,000 IU), for example to treat an illness. To do this:

- **Cut open a few capsules using a pair of scissors, squeeze out the contents and count the number of drops per capsule, and calculate the average number of drops.**
- **Halve the number of drops for a half dose (100,000 IU), or divide by four to find out number of drops you need for a quarter dose (50,000 IU)**
- **If there is an odd number of drops, round this up.**

If you only have 100,000 IU capsules, you need to use two capsules for a 200,000 IU dose. If you only need 50,000 IUs, use half the amount in the capsule.

Infection Prevention

Without proper precautions, universal distribution of vitamin A may risk the spread of infectious diseases, especially among young children. Universal distribution programs should be designed to minimize this risk and prevent the transmission of infections and diseases.

Universal distribution of vitamin A usually takes place in one of two settings: a health care facility, such as an out-patient health clinic, or a community setting, such as a school, community center or local gathering place.

Risks

If you are in a health-care setting, the risk of infection may be greater. This is because:

- **Many people seeking health care services are already sick.**
- **Invasive procedures are routinely performed in health care facilities. These can increase risk of exposure to micro-organisms.**
- **Service providers and other staff are constantly exposed to potentially infectious materials, as a part of their work. Without proper precautions, they can unintentionally spread infectious germs to the people with whom they have contact.**
- **Services are sometimes provided to many clients in a limited physical space. They often take place over a short period of time. This can lead to increased exposure of all clients.**

Good Practice and Precautions

Infection prevention practices should be adapted and applied routinely wherever there is a universal vitamin A distribution program.[5] This protects clients, such as infants and young children receiving vitamin A, health care workers, and other staff and volunteers.

If you are thinking about holding a universal distribution program, you need to consider how to address the underlying need that is implied by generally accepted or "standard" precautions. These include:[6]

- **Hand washing and antisepsis (hand hygiene)**
- **Using personal protective equipment (such as gloves, masks, goggles, aprons, gowns, shoes and hair covers) when you handle blood, body substances, excretions and secretions**
- **Appropriate handling of patient care equipment and soiled linen**
- **Prevention of injuries by needles and other sharp items**
- **Environmental cleaning and the management of spills**
- **The appropriate handling of waste.**

Before universal vitamin A distribution programs are introduced at health care centers, the centers should already rigorously employ standard infection prevention practices. This is especially important if the facility is not easily able to separate people receiving vitamin A from sick patients who are coming there for treatment.[7]

Further reading

For a more in-depth discussion about these issues, see EngenderHealth (2001), Infection prevention: A reference booklet for health care providers.

Hand Hygiene[8]

Hand hygiene is one of the most important measures for the prevention and control of the spread of disease. It is a major component of the Standard Precautions that are noted previously. Main points include:

- **The preferred means to ensure routine hand hygiene, if your hands are not visibly soiled, is an alcohol-based hand rub. If an alcohol-based hand rub is not available, wash your hands with soap and water. Use a single-use towel to dry your hands.**
- **If your hands are visibly dirty or soiled with blood or other body fluids, if you think that broken skin might have been exposed to potentially infectious material, or you have used the toilet, your hands should be washed thoroughly with soap and water.**

The alcohol-based hand rubs with the highest level of antimicrobial efficacy usually contain 75 to 85% ethanol, isopropanol, or n-propanol – or a combination of these products. WHO-recommended formulations contain either 75% v/v isopropanol or 80% v/v ethanol.[9]

Indications for Hand Hygiene[10]

You need to perform hand hygiene:

- **Before and/or after touching each child or caregiver. If a child is sick, you MUST clean your hands after dosing the child.**
- **After you come into contact with body fluids or excretions and mucous membranes.**
- **After you come into contact with inanimate surfaces and objects (including medical equipment) anywhere near each child or caregiver.**

Before you handle vitamin A supplements or deworming medication, you need to perform hand hygiene using an alcohol-based hand rub. Alternately, you should wash your hands with either plain or antimicrobial soap and clean water.

Soap and alcohol-based hand rub should not be used at the same time.

Respiratory Hygiene/Cough Etiquette[11]

To avoid transmission to unprotected contacts, it is essential to control the spread of pathogens from infected individuals. For diseases transmitted through large droplets and/or very small, airborne droplets, all individuals with respiratory symptoms should apply respiratory hygiene/cough etiquette.

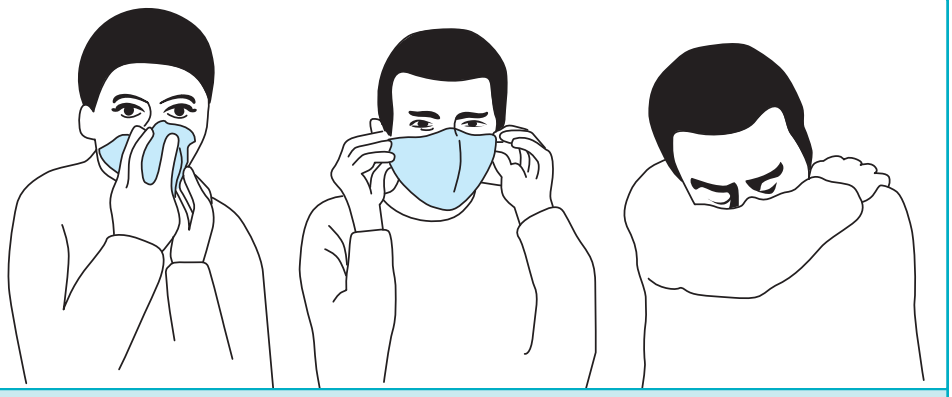
People with signs or symptoms of a respiratory infection, including health workers, children, caregivers, volunteers and visitors:

- **Should cover their mouth and nose when they cough or sneeze.**
- **Should use tissues, handkerchiefs, cloth masks or medical masks, if available, as a source control. These materials capture respiratory secretions and must be disposed of in a waste container.**
- **Should use a medical mask if they are coughing or sneezing, provided a mask can be tolerated.**
- **Must perform hand hygiene.**

The managers of a vitamin A distribution program should promote respiratory hygiene/cough etiquette, as follows:

- **Promote the use of respiratory hygiene/cough etiquette by all health care workers, children, and family members with acute febrile respiratory illness.**
- **Educate health care workers, children, caregivers, and visitors on the importance of containing respiratory aerosols and secretions. This is because they help prevent the transmission of respiratory diseases.**
- **Consider providing resources for hand hygiene, such as dispensers of alcohol-based hand rubs and hand-washing supplies, and resources for respiratory hygiene, such as tissues. Places where people gather, such as waiting rooms, should be made a priority.**

Covering Your Nose and Mouth when Coughing or Sneezing



- If you have to cough or sneeze, cover your mouth with a clean tissue.
- For prolonged coughing or sneezing, please wear a face mask.
- If you do not have a clean tissue, turn your face into your shoulder or the bend of your elbow to cough or sneeze.

Points to Remember

- Make sure you follow the nine steps whenever you administer vitamin A.
- More detailed steps can be found in the Vitamin Angels' Vitamin A Supplementation Learner's Guide.
- Remember that there are different doses for infants and children.
- Always check the expiration date on the bottle, as you should not administer vitamin A that is out of date.
- Never use your teeth or a needle to open a capsule, use scissors.
- Never give a capsule to a caregiver to administer later.
- Never place a capsule in an infant or child's mouth.
- Always wash your hands with an alcohol-based rub before and/or after touching each child or caregiver.
- If alcohol-based rub is not available, use soap and clean water.
- Clean your hands before handling vitamin A capsules.
- Wear gloves, masks, goggles or other protection when you handle blood, body substances, excretions and secretions.
- Cover your mouth and nose when you cough or sneeze.
- Ask your vitamin A distribution program manager if there is anything that you are not sure about.

5 Supplementing Children Ages 6–59 Months

About this Chapter

This chapter examines how to provide vitamin A supplements to children ages 6–59 months. It shows how to screen children within this age range to see if they are eligible to receive vitamin A. It also explains when vitamin A can be administered safely. In addition, it suggests suitable occasions for screening.

The chapter also looks at how to schedule and dose children in the 6–59 months age group. A table sets out the specific doses for different age groups. It also gives details of how often children should be dosed and how to provide the right follow-up for children and their caregivers.

Finally, the chapter explains how doses are labelled for this age group. It lists which children should not receive vitamin A supplementation. It also explains what side effects may occur, and what advice should be given about side effects to the child's caregiver. It then advises trainers and healthcare providers on how to talk about side effects and safety.

Preservice Counseling

Preservice counseling for caregivers should take place at the beginning of each vitamin A distribution event, before children are screened for eligibility and given vitamin A. This is frequently performed as a group activity, or can be done one-on-one with individual caregivers. During preservice counseling, the health worker should:

- Tell the caregivers that children will be receiving vitamin A
- Explain the dosing schedule and benefits of vitamin A
- Talk to caregivers about safety and side effects associated with vitamin A
- Ask caregivers if they have any questions

Screening

- There are no conditions or illnesses that prevent a child from being given vitamin A. If children coming for supplementation are sick with measles or xerophthalmia, they should be given vitamin A. However, they must then be referred to a health facility for treatment.[1,2]
- Children should be screened from the age of 6 months to see if they are eligible for a dose of vitamin A. This should take place at every immunization contact, as well as other health contacts.
- You can determine if a child is eligible by checking the immunization or child health cards. These cards will show you the most recent date on which a child received vitamin A supplementation.
- If a child health card is not available, you can ask the caregiver to tell you when a child last received vitamin A; show the caregiver examples of both red and blue capsules when asking about the most recent dosing.
- Vitamin A supplements can be safely given at the same time as vaccines.[3,4] They can also be given with deworming medications.[5]
- Every time a child comes in contact with health services, you should take advantage of this opportunity to screen the child and provide him or her with vitamin A supplements.

Dosing

The table opposite shows the correct vitamin A supplementation dosing schedule for universal distribution programs targeting children ages 6–59 months for the prevention of vitamin A deficiency (VAD).[6,7]

Find out (or estimate) the child's age. This ensures that you are providing the child with the correct dose for his or her age.[1,8]

Administration

- **Vitamin A supplements for the prevention of VAD are given by mouth (orally).**
- **Vitamin A capsules should not be swallowed whole. Instead, the liquid vitamin A oil inside the capsule should be squeezed into the infant or child's mouth for ingestion.**
- **Vitamin A as syrup or from a capsule should never be given by injection.**

Follow Up

- **As soon as you have administered the proper dose of vitamin A, tell the caregiver when to return with the child for the next dose of vitamin A. Make sure that caregivers are told in a way that helps them remember.**
- **Record the dose given on the child health card and in the distribution register.**

Frequency

Vitamin A supplements protect against VAD for a 4 to 6 month period. You therefore need to give a vitamin A supplement every 4 to 6 months to young children who are not getting the amount of vitamin A they need from their food.

Dosing Schedule for Universal Distribution: Children at 6–59 Months of Age

Target group		Dose	How often
Infants 6–11 months of age		100,000 IU, administered orally	Every 4–6 months
Children 12–59 months of age		200,000 IU, administered orally	Every 4–6 months

Labeling

- **Preparations of vitamin A supplements are labeled in international units (IU).**
- **Preparations may also be labeled in milligrams (mg) or micrograms (mcg, µg).**
- **Always check the manufacturer's instructions.**

Contraindications

There are no contraindications to giving vitamin A supplements to children.

However, some children should not be supplemented with vitamin A.

These include:

- **children with respiratory infections who are experiencing respiratory distress and are unable to breathe properly.**
- **children who have received a preventive dose of vitamin A within the last month.[1,9]**
- **children younger than 6 months or older than 59 months.**

Side Effects

The dose amounts of the vitamin A that is used in universal distribution programs have a wide margin of safety.

As a result, side effects are very rare. Some side effects may occur, however:

- **a child may eat less.**
- **a child may experience nausea or vomiting.**
- **a child may have a headache.**
- **an infant less than 1 year old may develop a bulging fontanel--which is the soft spot on top of the child's head.**

You therefore need to advise the caregiver who brings the child for vitamin A supplementation that:

- **there is a small risk of side effects.**
- **these side effects are normal and temporary.**
- **the symptoms will pass within 1-2 days**
- **no specific treatment is needed for side effects.[1,9]**
- **symptoms that do not pass within 2 days are unrelated to vitamin A supplementation and require immediate medical attention.**

Note for Trainers on Side Effects and Safety[4]

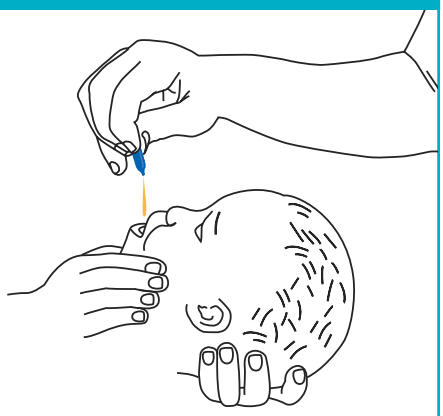
When training service providers, it is best to cover this topic when you are discussing how to give vitamin A.

It is important for all trainers and service providers to be confident and competent about:

- **the safety of vitamin A**
- **how they communicate the safety of vitamin A to people who bring their child in for vitamin A supplementation**
- **how to communicate what side effects may occur – even if these are very rare**
- **how to deal with side effects of vitamin A supplementation.**

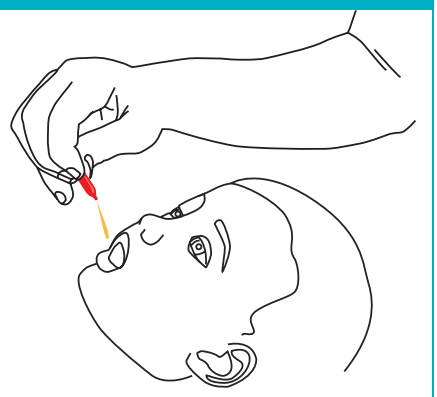
When you follow the protocol and techniques for the administration of vitamin A properly, vitamin A is safe.

How to Dose an Infant (6 – 11 Months of Age)



- Ask the caregiver to support the infant's head and press the cheeks together to open the infant's mouth.
- Without touching the infant, squeeze the liquid vitamin A **100,000** IU from the capsule into the infant's open mouth, ensuring that the child swallows entire dose.

How to Dose a Young Child (1 Year up to 5 Years of Age)



- Ask the caregiver to support the child's head and instruct the child to open his/her mouth.
- Without touching the child, squeeze the liquid vitamin A **200,000** IU from the capsule into the child's open mouth, ensuring that the child swallows entire dose.

Points to Remember

- There are no sicknesses or illnesses that prevent a child from being given vitamin A.
- However, children with respiratory infections and who are unable to breathe properly and children who have received a preventive dose of vitamin A within the last one month should not be supplemented with vitamin A.
- Children should be screened from the age of 6 months at every immunization, and at other health contacts to see if they are eligible for a dose of vitamin A.
- You can determine if children are eligible for vitamin A supplementation by checking their immunization or child health card, or by asking the caretaker.
- Young children who do not receive the amount of vitamin A they need from their food will need to be given a supplement every 4 to 6 months.
- Make sure you use the table in this chapter to help you provide the child with the correct dose for his or her age.
- Vitamin A as syrup or from a capsule should be administered by mouth, and never be given by injection.
- Always follow up with the caregivers after you have administered the vitamin A supplement. They need to know when their child should return for the next dose.
- Bottles of vitamin A supplements are carefully labelled. You always need to follow the manufacturer's instructions on how to use and store them.
- The side effects related to vitamin A are temporary and include vomiting, loss of appetite, nausea or headaches and a bulging fontanel in infants. Although these are very rare, you do need to tell caregivers about them.
- Trainers also need to be confident about side effects and safety when they are talking about this with service providers.

6 How to Ship, Transport, and Store Vitamin A Supplements

About this Chapter

This chapter explains how vitamin A supplements are packaged, shipped, transported and stored long term, so that they do not lose their potency.

It looks at how the shipment process works from start to finish, and provides advice for consignees and shipping agents in terms of packing and temporary storage, as well as how to work with customs.

It also gives details of the different forms that vitamin A supplements can take. It explains how they must be stored long term, in warehouses and at point of distribution. It also looks at how to maintain packaging, and how and when packaging can be opened.

In addition, Chapter 6 looks at how vitamin A supplements must be stored once their packaging or containers have been opened.

General Guidance[1]

Vitamin A supplements are more stable than vaccines. They do not need a cold chain and do not need to be stored in a refrigerator. Their potency is, however, reduced by air and sunlight.

Vitamin A supplements should:

- **be kept out of direct sunlight**
- **be kept cool**
- **be kept dry**
- **not be frozen**
- **be kept away from insects and pests**
- **be kept away from toxic chemicals, and**
- **be kept off of the ground**

International and Onward Shipping and Warehousing

The vitamin A supplements provided by Vitamin Angels are high-quality capsules, manufactured consistent with best practices, and are packed at a factory. The way in which they are prepared for international shipment is based on manufacturer specifications. These specifications follow international best practices. As a result, the packaging must be maintained intact at all points during the international shipment process.

Once the vitamin A supplement shipments arrive at the port of entry, the shipping agents must continue to follow the shipper's instructions. These apply to both packaging and temporary storage.

Consignees should, however, take possession of the bulk shipments as soon as is practical.

When possible, arrangements should be made to clear the vitamin A supplements from customs before they arrive. Vitamin Angels provides the relevant documentation to consignees, who are then responsible for making the necessary arrangements for vitamin A to be released from customs.

Once bulk-packaged vitamin A has reached its destination country, its onward shipment should be completed as quickly as possible. The original packaging must be maintained as much as possible.

At the same time, it is essential to:

- **minimize exposure to light and heat**
- **prevent freezing, and**
- **maintain dry conditions.**

Packaging Requirements

- Bulk shipments should be kept in their packaging for as long as possible.
- The packaging should only be broken if it is necessary to inspect quantities or to verify labelling.
- The seal of any individual container containing vitamin A must never be broken until it is time to dispense it.

Storing Capsules

Vitamin A supplements normally come in the form of a gelatin capsule. Each capsule corresponds to a single dose. Capsules are transported in bulk, sealed, opaque bottles, each of which contains 100, 500 or 1,000 capsules.

Sometimes vitamin A in capsule form has to be temporarily warehoused in bulk. When this happens, each consignment of 10,000 capsules (which is enough to meet the needs of 5,000 children for one year) requires approximately one cubic meter of space.

It should be stored:

- **in a dry, cool area**
- **at temperatures above freezing**
- **out of direct sunlight**
- **away from insects and pests**
- **away from toxic chemicals, and**
- **off the ground**

Storing Syrup

In some, very limited circumstances, vitamin A is prepared by the manufacturer as syrup and packed in sealed bottles. Each bottle contains many doses.

When vitamin A is provided as syrup packaged in bottles, it requires a larger storage space. How big this is depends on the volume of syrup in each bottle.

Individual bottles of vitamin A capsules and syrup must not be opened at either central or regional warehouses. They must be kept intact until they are received at the point of distribution and administration.

Monitoring Expiry Dates

The people who manage the supply and distribution of vitamin A must ensure that they monitor expiry dates. This ensures that the syrup and/or capsules are used before the expiry date on the label, or before the use-by date written on the bottle by the health care provider.

Local Point-of-Distribution Storage

- **Vitamin A can be stored locally in a secured room or cabinet. This keeps bottles out of direct sunlight, and ensures that they are cool, dry, and not subject to freezing.**
- **Make sure that bottles are secure from insects and pests.**
- **Do not store vitamin A in the same place as poisonous or toxic substances or in the same places as chemicals, such as kerosene or petrol.**
- **If an unopened bottle is properly stored, vitamin A supplements in either capsule or syrup form will retain their potency for at least two years. They should be kept unopened and must be stored in a sealed bottle.**[1,2,3,4]

Using Capsules

Once the seal on a bottle is opened, individual capsules must be used within one year.

As soon as you have opened a bottle of capsules, write the date on the label so that you will know when to stop using it.

Using Syrup

If they are properly stored in their original container, vitamin A preparations in syrup form should be used within six to eight weeks of opening the bottle.[2]

Storing Opened Containers and Bottles

- As soon as you have opened a bottle of capsules, or a glass bottle of vitamin syrup, write the date on the label. You will then know when to stop using it.
- Always check the expiry date printed on the label. Although preparations that are stored beyond the designated periods are not as potent, they are still safe. They often contain enough vitamin A for therapeutic use.[2,5]
- 100,000 IU (International Units) and 200,000 IU capsules are generally different colors. Store them separately and keep them clearly marked. In this way, the two different doses will not get mixed up.[1,3]
- All vitamin A supplements should be stored in opaque bottles. This protects them against the light. Aluminum bottles are frequently used for this purpose.[2]

Points to Remember

- Vitamin A supplements are more stable than vaccines; however, they are affected by air and sunlight.
- When Vitamin A is being shipped from the manufacturer to your country, their packaging must be maintained at all times.
- Once the vitamin A has arrived in your country, the shipping agents must follow the shipper's instructions very carefully. This is also important when the supplements are in temporary storage.
- Vitamin A supplements need to be cleared through customs as quickly as possible. Vitamin Angels provides the documentation you need to do this.
- You need to follow packaging requirements very carefully. In particular, you need to keep bulk shipments in their packaging as long as possible. You should only break the packaging if the quantities or labeling need to be inspected or verified.
- Vitamin A supplements are normally provided as capsules. However, they occasionally take the form of syrup.
- It is very important to store both forms of vitamin A supplement correctly. They must be stored in opaque containers. In addition, they must not be exposed to excessive light or heat, they must be kept dry, and they must be kept out of direct sunlight. They should also be kept free from insects or pests and should not be exposed to poisons or chemicals.
- Remember to store 100,000 IU and 200,000 IU capsules separately and keep them clearly marked.
- Once a bottle has been opened, individual vitamin A capsules should be used within one year.
- Once a bottle of vitamin A syrup has been opened, it should be used within six to eight weeks.
- Vitamin A supplements can be used after the expiry date, based on local practice. Although preparations that are stored beyond the designated periods are not as potent, they are still safe and often contain enough vitamin A for therapeutic use.
- Writing the date on the vitamin A bottle label immediately after opening it for the first time will help you remember the date by which the capsules or syrup ought to be used.

7 Organizing Mass Distribution of Vitamin A

About this Chapter

Chapter 7 looks at how vitamin A supplements are distributed in countries which are experiencing vitamin A deficiency (VAD). It examines the range of opportunities for vitamin A distribution inside and outside of government-run health programs.

The chapter shows how vitamin A distribution can be integrated into existing health service interventions. These include facility-based health care centers, maternal and child survival services, postnatal care services and specially-organized programs and events. It advises health workers on what to ask caregivers of infants and young children.

It also looks at why child health weeks and days, micronutrient days, community-based outreach approaches and regular deworming programs are set up, who they help, and what they achieve.

Finally, Chapter 7 provides a reading list of manuals that suggest ways to organize vitamin A supplementation around health activities or regular deworming.

Distribution Projects and Initiatives

Traditionally, vitamin A supplements are distributed as part of a variety of health system-related initiatives. These include, for example, maternal and child health (MCH) services at health centers and community outreach services. Some of these are run as part of a ministry or department of health program, often with the support of a ministry or department of education.

Vitamin A distribution initiatives offered through the national health system are nearing their maximum potential for reach. However, large numbers of infants and children still do not have access to vitamin A through the national health system, and are not being reached by traditional distribution systems.

As a result, other methods are being used to increase vitamin A coverage, while still coordinating with the national and district level health system. One such innovative method for increasing coverage is to use local networks of indigenous non-governmental organizations (NGOs) to access hard-to-reach populations. Another method is to engage large, community-based microfinance associations to manage vitamin A distributions within their geographic area.

A range of opportunities is available for vitamin A distribution in the context of health programs. Above all, every health system which operates in a country which is experiencing VAD should take the opportunity to increase its coverage of vitamin A supplementation. This can be done by adding supplementation services to all of the basic health services. This is possible both when distribution takes place within a health care facility and when it takes place through community health outreach services.

Integration into Health Service Interventions

Vitamin A distribution can be integrated into any number of existing health service interventions. These include:[1,2]

- Interventions that are part of the regular services at facility-based health care centers, such as:

  (a) Expanded programs for immunization (EPI) activities[1,3]

  (b) Integrated management of childhood illness (IMCI)

  (c) Maternal and child health (MCH) services

  (d) Maternal and child survival services

  (e) Other postnatal care services

- During specially planned child health weeks (CHW) or immunization days or weeks
- During specially organized micronutrient distribution events
- Through community-based outreach and distribution, and

Meeting Caregivers and Children

All health workers should always ask a child's caregiver if their child needs his or her next dose of vitamin A supplement.

You should also check the child's immunization or health card to find out when the child last had a vitamin A supplement.

Each time you come into contact with a mother, infant, or child, you can use this as an opportunity to check and treat children with vitamin A deficiency. These include immunization contact, postpartum contact with the mother, and well-baby or sick-child consultation.

Child Health Weeks or Days

Child Health Weeks (CHW) are regular events. They deliver an integrated package of preventive services that are known to be highly cost-effective for improving child health and survival. CHWs are run alongside routine services at health facilities.

- **CHWs aim to reach all children under the age of five years at least once every six months.**
- **CHWs take place during a limited time period, such as a day, week or month.**
- **The package of essential preventive health services depends on what people in the area need.**
- **The package of services could include vitamin A supplementation, deworming, insecticide-treated bed nets (ITNs) or other services.**

Micronutrient Days

In many countries, vitamin A has been distributed successfully during National Immunization Days. These provide one vitamin A supplement per year. Consequently, Micronutrient Days were developed to provide the second distribution in a year.

- **Typically, specific dates during the year are identified.**
- **These dates are the focus for distributing vitamin A supplements, and other micronutrients such as iron or folic acid tablets.**

Community-Based Outreach Approaches

This approach is usually administered through the government health infrastructure.

- **It is based upon massive social mobilization.**
- **Supplements are distributed to the district health office, then to health posts, and finally through village workers.**

One example of this approach comes from Nepal. A program was set up which asked female community health volunteers to distribute capsules on the same four days every year. Two days were set up for the first distribution and two for the second.

Regular Deworming Programs

About two thirds of the countries which experience vitamin A deficiency are also classified by the World Health Organization (WHO) as being endemic with soil-transmitted helminths (STH or "worms").

- **STH compete for available micronutrients ingested by infants and children.**
- **The distribution schedule for both a deworming agent and vitamin A are similar.**
- **This means that STH treatment offers a perfect opportunity to provide vitamin A supplements in countries with regular deworming programs.**

Points to Remember

- Traditionally, vitamin A supplements are distributed as part of a variety of health system-related initiatives.
- However, large numbers of infants and children do not have access to the formal health system, and are not being reached by traditional distribution systems.
- As a result, large-scale demonstration projects, which use innovative distribution schemes, are being undertaken to distribute vitamin A.
- Every health system that operates in a country which is experiencing moderate or severe VAD should take the opportunity to increase its coverage of vitamin A supplementation.
- A range of opportunities is available for vitamin A distribution in the context of health programs.
- Vitamin A distribution can be integrated into any number of existing health service interventions, from regular services at facility-based health care centers to maternal and child services, child health weeks, or days, micronutrient days, community-based outreach approaches, and regular deworming programs, among others.
- Whenever a health worker meets a child or its caregiver, it is an opportunity to check up on the child's vitamin A supplementation status.
- You can read manuals by WHO/UNICEF and the Micronutrient Initiative if you want to find out more about organizing vitamin A supplementation programs or about integrating regular deworming with vitamin A supplementation.

Further reading

To find out more about how to organize vitamin A supplementation programs around other health activities, you can read the Micronutrient Initiative's manual: Vitamin A in child health weeks: A toolkit for planning, implementing, and monitoring (2007).

For more information about when and how to integrate regular deworming with vitamin A supplementation, you can read the WHO/UNICEF manual: How to add deworming to vitamin A distribution (2004).

8 Training and Public Awareness

About this Chapter

Chapter 8 provides key points about training and public awareness communications. The chapter also suggests where operations managers can find out more about these topics.

It explains why training about vitamin A is important for health providers and community leaders. It suggests what this training should include. It also suggests what you need to do when you are planning a training program. Next, it provides questions for health workers to use when they are role-playing.

This chapter then looks at areas to focus on during training. It points to the basic facts that the training should provide. It also explains how to develop the skills of the people who provide the vitamin A capsules.

It also explains why public awareness campaigns are a relatively inexpensive way to promote vitamin A supplementation. It tells why a well-conceived public awareness strategy helps preserve children's health. It suggests key messages to share with caregivers.

Finally, Chapter 8 looks at how to promote vitamin A distribution. It shows how to do this in urban settings, towns and villages, and rural or hard-to-reach settings. It also suggests when it is appropriate to use printed materials or newspapers to create demand for vitamin A.

General

Vitamin A can be distributed at one or many locations. Wherever it is distributed, the operations manager must make sure that training or refresher training takes place. This ensures that the vitamin A is distributed properly.

The operations manager must also make people aware of every distribution program that is taking place and provide key information about each vitamin A distribution.

Vitamin Angels VAS Learning Courses

Vitamin Angels' Vitamin A Supplementation (VAS) Learning Package standardizes and addresses healthcare workers' vitamin A distribution training needs. It also includes training on how to deliver deworming at the same time as vitamin A. These interactive learning courses aim to ensure that participants are current on VAS best practices and that they have the technical background information and practical skills needed to plan, facilitate, deliver, monitor, and evaluate an effective vitamin A distribution project.

These VAS Learning Courses provide participants with standardized, step-by-step instruction and the opportunity to practice practical VAS service delivery skills including entrance and exit counseling, eligibility determination and distribution.

Vitamin Angels field partners can request a training by contacting a Vitamin Angels Program Manager. Also, Vitamin Angels will contact our field partners about trainings that are planned in their area.

Training[1]

Many health providers and/or community leaders do not know about vitamin A. Even if they do, they may not know about its important role in preserving and improving child health. They therefore need to undertake the appropriate training. This should address the benefits, safety and side effects of vitamin A, as well as all aspects of organizing and implementing distribution.

When you set up your training program, you need to ask 3 key questions:

- **Is this is the first time that vitamin A distribution is being undertaken?**
- **Is this is a routine activity?**
- **Are you using the same staff or are you taking on new staff?**

Training can be quite intensive at the start of a new program. However, with time, your vitamin A distribution program will become more routine.

After a while, you may find that you only need to arrange refresher training, or even just-in-time, on-the-job training.

Training should take place before you run the vitamin A distribution program. This is because each team, in every location, needs time to complete the training and preparations that are needed for a distribution event.

During the training, the health workers should follow the steps in the Vitamin Angels' visual checklist, a 39-step job aid that reminds service providers of the important steps in service delivery. Some key steps include:

- **practice telling the caregiver that the child is receiving vitamin A**
- **practice telling the caregiver how their child will benefit by taking vitamin A**
- **discuss safety and side effects**
- **practice providing vitamin A to a pretend child, including using eligibility criteria for screening and using infection prevention practices**
- **remind the caregiver when to return for the next dose of vitamin A.**

Training Focus [1]

Training should focus on:

1. **Providing information on basic facts about vitamin A and its benefits**

   Health workers need to know the benefits associated with vitamin A capsules. They also need to know other basic facts about vitamin A (see Appendix B).

2. **Developing and standardizing the service providers' skills**

   Health workers need to be competent in the proper administration of vitamin A capsules. Among other elements, this includes:

   - **knowing the proper dosage**
   - **screening for eligibility and ineligibility indicators**
   - **cutting capsules, and**
   - **tallying and recordkeeping.**

   Do not simply rely on lectures. Training which gives workers an opportunity to solve problems in a simulation of the distribution event is more effective.

   Demonstration with practice works best. For example, workers should be asked to demonstrate how to use a 200,000 IU capsule for a child under 1 year of age.

Public Awareness [2]

Periodic supplementation is a relatively inexpensive way to promote active participation by caregivers. This is because you only need to promote vitamin A supplementation twice every year.

A well-conceived public awareness strategy helps preserve children's health. Over time, it will create demand throughout the community for both initial and ongoing vitamin A distribution programs.

Key Messages

In order to promote vitamin A distribution in communities, minimal information containing key messages should be provided. This should happen about a month before the distribution. Information should be given to all caregivers, and should include:[3]

- **the dates of the vitamin A distribution program**
- **where and when to go (times and locations for the nearest services)**
- **what services will be given**
- **instructions to bring all children aged 6–59 months (along with their child health cards)**
- **the health benefits of the services, including that it is important for the health of every child**

Job Aid: Visual Checklist for Giving Vitamin A and Deworming Together

An example of Vitamin Angels "Job Aid" or visual checklist can be found in Appendix C. This includes a picture version of the 39 key steps in giving vitamin A and deworming to young children. It helps to train and remind service providers of the important steps in service delivery.

Promoting Distribution

There are many ways of communicating to the community:

- **It is up to each manager to prioritize which methods work best in their community.**
- **Using more than one method will increase the chances of your messages reaching the target group.**

Evaluations of vitamin A and polio eradication programs consistently find that it is best to use a number of different approaches to spread the word about distributions. These depend on whether you are dealing with people in urban environments, towns and villages, or rural settings.[3]

In urban settings:

- **use the radio and television**
- **communicate via religious organizations (mosques, churches) and their leaders (priests, imams)**

In towns and villages:

- **use "town criers" with microphones**
- **use meetings led by community leaders or women's organizations**

In rural and hard-to-reach settings:

- **use interpersonal communication; this is particularly important in hard-to-reach, rural settings**
- **involve trusted leaders; this is strongly recommended.**

Using Printed Materials and Newspapers [4]

- Experience suggests that using print materials (such as posters, banners or billboards) and newspapers is not an effective way to create a demand for vitamin A.
- According to one report, print materials and newspapers could, however, be useful to address specific advocacy needs.

Further reading

If you would like to find out more about training and public awareness, the following resources are helpful:

- *Vitamin Angels: Vitamin A supplementation: Facilitator's Guide*
- *Vitamin Angels: Vitamin A supplementation: Learner's Guide*
- *MOST/USAID: Twice-yearly vitamin A supplementation: A guide for program managers, 2001*
- *The Micronutrient Initiative: Vitamin A in child health weeks: A toolkit for planning, implementing, and monitoring, 2007*

Points to Remember

- Vitamin A can be distributed at one or more locations.
- Training or refresher training should always take place before the distribution program is set up; it is important to allow enough time for this.
- Many health providers and community leaders do not know the importance of vitamin A.
- They need to be trained about vitamin A, as well as about how to organize and implement its distribution.
- Three key questions need to be asked every time training takes place.
- Training is a good opportunity to practice what to say to the caregivers when the children they are responsible for are being given vitamin A.
- Training should focus on providing information on basic facts about vitamin A and its benefits and side effects.
- It is also the best time to develop the skills of the people who provide the capsules.
- Do not simply rely on lectures; it is more effective to provide training which gives workers an opportunity to solve problems in a simulation of the distribution event.
- Demonstration with practice works best.
- It is important to make people aware of vitamin A distribution events. Doing this is relatively inexpensive because it only needs to happen twice a year.
- In order to promote vitamin A distribution in communities, minimal information containing key messages should be provided about a month before the project takes place.
- Caregivers and children must be given key messages about where and when vitamin A distribution is taking place, what to bring, what will happen, and why it is important.
- There are many ways to promote these events, from using the radio or "town criers" to using trusted community leaders. The message used depends on whether the event is taking place in an urban setting, a town or village setting, or in a rural or hard-to-reach setting.
- It's important to use the method that works best for your particular community.
- Printed materials and newspapers are not the best method in any of these environments; however, they could be useful if you need to address advocacy needs.

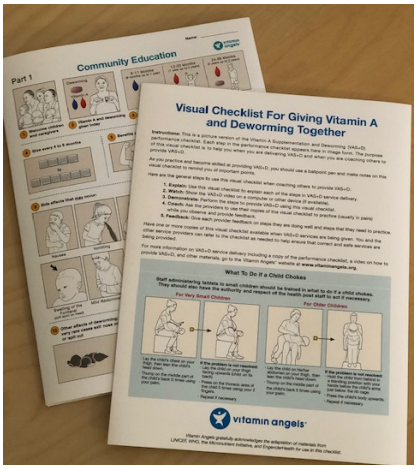
9 Requirements for Distribution Points

About this Chapter

Chapter 9 lists the supplies you need to provide at a vitamin A distribution location. The chapter explains why you need supplies. It also shows how to calculate the number of vitamin A capsules, training materials, educational materials, scissors, wipes or towels, plastic bags or boxes, child health cards, and tally sheets you need.

The chapter lists the specific physical facilities and processes that need to be set up at every location were vitamin A distribution is to occur. It also explains what each process involves.

Equipment required



Supplies

It is important to have the correct supplies at each vitamin A distribution location. In particular, each location should have:

- Enough vitamin A capsules for each child expected to attend.
- Child health cards for every child expected to attend for use if a caregiver does not have them. These are used to record vitamin A supplementation (see example on page 34).
- 1 pair of scissors for each person distributing the vitamin A. The scissors are used to open the capsules.
- Alcohol-based hand sanitizer, or soap and easy access to clean water, for infection prevention practices.
- Wipes or towels for each person distributing vitamin A. These help clean the oil off their hands and scissors.
- A plastic bag or box where used capsules can be thrown away.
- Tally sheets for each person supplying vitamin A (see example on page 68).
- Training materials for health workers and volunteers.
- Educational materials for caregivers
- Vitamin Angels "Visual Checklist" to serve as a job aid (pages 56-61).

Tally Sheets

The vitamin A supplementation program should have enough tally sheets to cover the number of children expected to attend.

- One tally sheet usually covers 100 children in the 6–59 months age group.
- The number of tally sheets that are needed is equal to the expected number of children in this age group, divided by 100, plus an additional 10% as a back-up.

For further information, see the example of a tally sheet on page 68.

Physical Facilities and Processes

It is also important to set up various physical facilities and processes wherever vitamin A distribution is taking place. These include:

- **An adequate storage area for all vitamin A supplies. This ensures that the vitamin A is stored in a secure, dry, cool place, away from direct sunlight and off the ground.**
- **A method for disposing of used vitamin A capsules.**
- **A simple program for training those administering vitamin A. This includes instruction on how to administer vitamin A, and how to recognize and refer sick children.**
- **A systematically applied method that lets every infant or child's caregiver know when to bring them back for their next dose of vitamin A.**

Points to Remember

- Make sure you have the correct supplies at each vitamin A distribution location.
- You need one vitamin A capsule and child health card for every child you expect to attend.
- You need alcohol-based hand sanitizer, or soap and easy access to clean water, for infection prevention practices.
- You need a pair of scissors, some wipes or towels, and a plastic bag or box for every person distributing vitamin A.
- You need 1 tally sheet for every 100 children you expect to attend, plus an extra 10% as back-up.
- You need training materials for health workers and volunteers.
- You need enough educational materials for all the caregivers you expect to attend.
- You need to provide adequate storage for all of the vitamin A supplies. It should be secure, cool, dry and away from direct sunlight and off the ground.
- You need to set up a method of disposing of used vitamin A capsules.
- You need to create a simple training program, including how to administer vitamin A, and how to recognize and refer sick children.
- You need a systematic method for telling all caregivers when to bring their children back for their next dose of vitamin A.

10 Arranging Your Work Station

About this Chapter

Chapter 10 suggests how you can arrange your work station so that you can administer vitamin A supplements. Its advice can also be used when you are providing deworming agents and immunizations.

This chapter includes a detailed chart. This focuses on how to ensure a smooth flow of caregivers and children who are coming to your work station to receive health care. Topics it covers include crowd control and health education. The chapter also shows how to operate the registration, vitamin A and deworming, tally, and immunization teams.

How to Arrange a Work Station to Ensure a Smooth Flow of Clients [1,2,3]

Training on how to set up a well-organized work station is vital. Those that maintain a sense of order will operate more smoothly. If there is a problem, the staff in an orderly work station will also have the space to respond in time. Work stations should ensure that they have:

- **Arranged that vitamin A is given first, then deworming is given. Vaccines and injections should be given last, after vitamin A and deworming.**
- **Sufficient space between the table where the measles injection is given and the table where the vitamin A and deworming are administered.**
- **Someone designated to control the waiting crowd who allows only a small number of mothers and children to enter the room at one time.**

The following page shows one way of organizing the flow of children and caretakers who are attending a vitamin A supplementation and deworming event.

In addition to covering vitamin A supplementation and deworming, this chart can be used as an example workstation for the provision of immunizations.

If you are giving both vitamin A supplements and immunizations on the same day, vitamin A should be given first so the child is not upset and crying when trying to swallow drops of vitamin A.

Flow of Children Through a Well Set-Up Work Station

1. Register child
2. Give vitamin A + deworming
3. Give injectable (e.g., measles vaccine)
4. Record each treatment on a tally sheet
5. Provide health education

Points to Remember

- You can provide deworming and immunizations alongside vitamin A supplementation.
- Carefully arranging the layout of your workstation helps ensure that you have a smooth flow of clients, including caregivers and children.
- Following these suggestions for crowd control, registration, vitamin A supplementation and deworming, immunization, tallying and health education will also help you organize your supplementation, deworming and immunization days as efficiently as possible.
- Giving children vitamin A before you immunize them helps ensure they are not upset or crying when they try to swallow the vitamin A drops from the capsule.

Registration Team 1

1. Check that the child is in the target age group.
2. Give the caregiver one health card for each child.
3. Write the child's age on the back of the card.

Vitamin A and Deworming Team 2

1. Check the age of the child and give them vitamin A – either with or without a deworming tablet, depending on the protocol.
2. Record the dose given on the child health card.

Immunization Team 3

1. Vaccinate the child.
2. Ensure that safety procedures are followed.
3. Monitor reactions and respond to them as required.

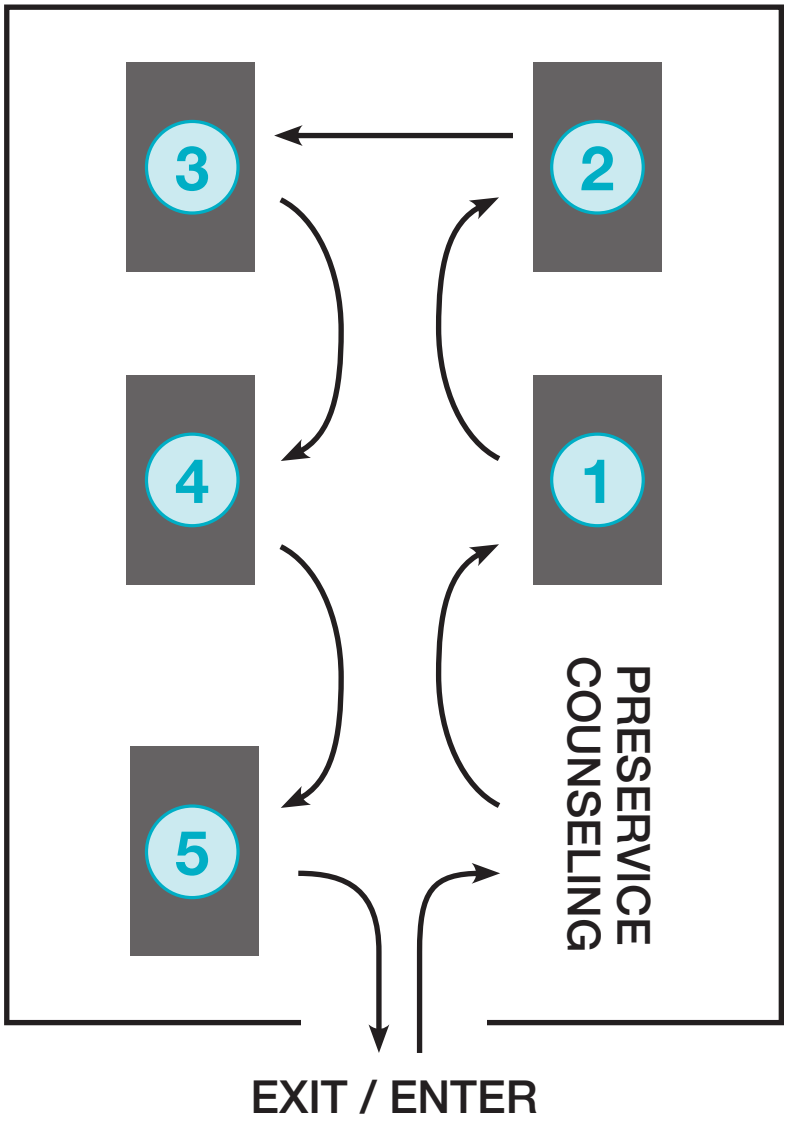
Tally Team 4

Use every child's health card to record each treatment received on the tally sheet.

1. By age group, tally the number of vitamin A doses given.
2. By age group, tally the number of deworming doses given.
3. By age group, tally the number of immunization doses given.

Health Education 5

1. Instruct the child's caregiver when to return for their child's next dose of vitamin A.
2. Provide them with a paper reminder of the next dosing date.
3. Review possible side effects of vitamin A with caregiver.



Crowd Control Team

- Help set up the post every day.
- Keep order in the waiting zones.
- Let the people who are waiting know if there are any delays.
- Keep the flow of people moving.
- Mobilize the community.

Preservice Counseling

Before delivering vitamin A to a child, a health worker should tell caregivers:

- that their child will receive vitamin A
- the dosing schedule and benefits of vitamin A
- safety and side effects associated with vitamin A

11 Recordkeeping[1]

About this Chapter

Chapter 11 explains why it is important to keep records. It recommends how and where to record information about vitamin A distributions.

The chapter also explains how to record information about vitamin A distributions. It explains the different types of forms you can use. It also features a sample form for you to use or adapt. In addition, it explains what information you need to include on the form and why it is important.

This chapter includes a sample immunization/child health card. The card has space to include details about vitamin A distribution.

The chapter also includes advice on how to fill in a card that does not have any space for vitamin A distribution information. It suggests alternate ways to add this information. The chapter then discusses tally sheets. It explains why they are needed, when they should be used, and how they should be filled in.

Introduction

Recordkeeping is an important part of any health service activity. It is a good idea to include a record of vitamin A administration as part of your existing record systems. Examples of these include immunization records, growth charts, health center records, and home-based health records.

Remember that existing health records may or may not have a specific place for entering information about administration of vitamin A. They also may or may not have a specific place for entering information about associated follow-up appointments.

Recording Information

Cards Without Space for Vitamin A Data

Some forms at your vitamin A distribution site do not provide any space where you can enter information about vitamin A distribution to a specific child.

When this happens, you should:

- **Include exactly the same critical information that is included in the forms that have a space for vitamin A data. You can use the form on page 70 to remind you what you need to include.**
- **Choose an appropriate place**

For example, you could write this information in one of the corners of the information form. Another option is to write this in the space which is used to record information about vaccinations.

- **Write a capital "A" on the form followed by the date**

Doing this indicates that vitamin A supplementation information has been recorded on the form. Write the date in a way that is easy to understand. Make sure it is written in a way that is used by everyone in your country.

For example, you can write:

A June 6, 2017

Cards with Space for Vitamin A Data

You can record information which relates to the administration of vitamin A to a specific individual on:

- **an immunization card**
- **a health card**
- **other forms that anticipate the distribution of vitamin A.**

An example of a form is provided below.

The form you are using at your vitamin A distribution site may provide some space where you can write down information about vitamin A distribution to a specific child. This information is critical.

Sample Immunization/Child Health Card that Anticipates Vitamin A Distribution

Name of Child			
Female or Male			
Birth Date of Child	Day:	Month:	Year:
Name of Mother			
Name of Father			
Address			

CHILD'S AGE	VITAMIN A: DOSE AND DATE GIVEN	ALBENDAZOLE (400 MG): DATE GIVEN	NEXT APPOINTMENT: (DATE)
0-5 months	DO NOT GIVE	DO NOT GIVE	
6-11 Months	100,000 IU:	DO NOT GIVE	
12-17 Months	200,000 IU:	1/2 Tablet:	
18-23 Months	200,000 IU:	1/2 Tablet:	
24-29 Months	200,000 IU:	1 Tablet:	
30-35 Months	200,000 IU:	1 Tablet:	
36-41 Months	200,000 IU:	1 Tablet:	
42-47 Months	200,000 IU:	1 Tablet:	
48-53 Months	200,000 IU:	1 Tablet:	
54- 59 Months	200,000 IU:	1 Tablet:	

VACCINES	Date Given	NEXT APPOINTMENT: (DATE)
BCG		
DTP1		
DTP2		
DTP3		
OPV0		
OPV1		
OPV2		
OPV3		
MEASLES		
HepB0		
HepB1		
HepB2		
HepB3		

OTHER SERVICES	Date Given	NEXT APPOINTMENT: (DATE)
INSECTICIDE-TREATED BEDNET		

Critical Information to Record

It is essential that you include the following information on the form:

- **Child information:**

  This includes the name of the child; whether the child is female or male; the child's birth date (if available) or age; the name of the child's caregiver; and the child's address.

- **Vitamin A information:**

  This includes the date and dose of the vitamin A. For instance, you could write: November 5, 2017; vitamin A capsule; 200,000 IU.

- **Deworming information:**

  This relates to the deworming agent which is being administered, as appropriate. You need to write down if a deworming agent such as albendazole has been given at the same time as the vitamin A. You also need to write down the date and dose of the deworming agent. For example, you could write: November 5, 2017; Albendazole; 400 mg.

- **Next appointment information:**

  You need to write down the date when this child is due to receive their next dose of vitamin A. If they are due to be given a deworming agent, this should go here too.

Tally Sheets

You will often need to record data on a tally sheet. Sometimes tally sheets are needed for your supervisors. They might also be needed for local health authorities. It is important to complete them correctly and on time.

Using Tally Sheets

When vitamin A distribution is recorded on an immunization or heath card, the local health authority often requires summary data to be tabulated. This includes information about the individuals to whom vitamin A has been distributed. This information must be recorded.

When you complete a tally sheet, you need to remember that:

- **A tally sheet is a quick and simple report of coverage. It is for your supervisor and for other higher-level authorities, where required.**
- **Generally, tally sheets are marked with information once someone has been given a dose of vitamin A.**
- **The tally sheet is the first level of data collection. As a result, it is very important that it is completed accurately and on time.**
- **You need a fresh supply of new tally sheets for each day that you are distributing vitamin A. Make sure you use a separate tally sheet each day.**
- **You can find an example of a tally sheet for vitamin A and deworming on page 68.**
- **You can also design tally sheets to record other forms of distribution. Immunizations and bed net distribution are examples of this.**

Filling in Tally Sheets

Make sure you enter information that helps others to identify where the vitamin A has been distributed. You need to put this information at the top of the sheet. Make sure you put the date of the event there, too.

Whenever you dose an infant or child with vitamin A, place a "tick ✓" in the appropriate area. This should be in the place marking the correct dose and age group for the child.

You also need to place a separate "tick ✓" whenever you dose someone with a deworming agent such as albendazole.

At the end of the day, add up all the ticks for each age group. Write the total number of ticks for each of the groups separately in the space provided in the summary section. You can then give your completed tally sheet to your supervisor. An example of a tally sheet can be found on page 68 of this manual.

You also need to complete the child health card or the immunization card. You need to:

- **include information about the specific individual who received vitamin A.**
- **mark the tally sheet at the same time.**
- **do this immediately after giving the dose of vitamin A.**

If you do not do this immediately, you may forget to do it.

Information for Onsite Supervisors

If you are an onsite supervisor, you need to review each tally sheet with the health worker before either of you leave the distribution site.

You must deliver the tally sheet to the local health authorities as instructed. However, you should also prepare a summary sheet for the health authority sponsoring the distribution. This is for the authority's records and future use. It should include information about the total number of people who received vitamin A supplements at that specific site.

The tally sheet also has information regarding vitamin A capsule supplies. Be sure to include the information about number of capsules received, number of capsules used, and capsules remaining in stock. This is helpful to have for use in tracking inventory.

Make a note in the appropriate boxes of:

- **any adverse effects that were observed**
- **action taken**
- **the outcome.**

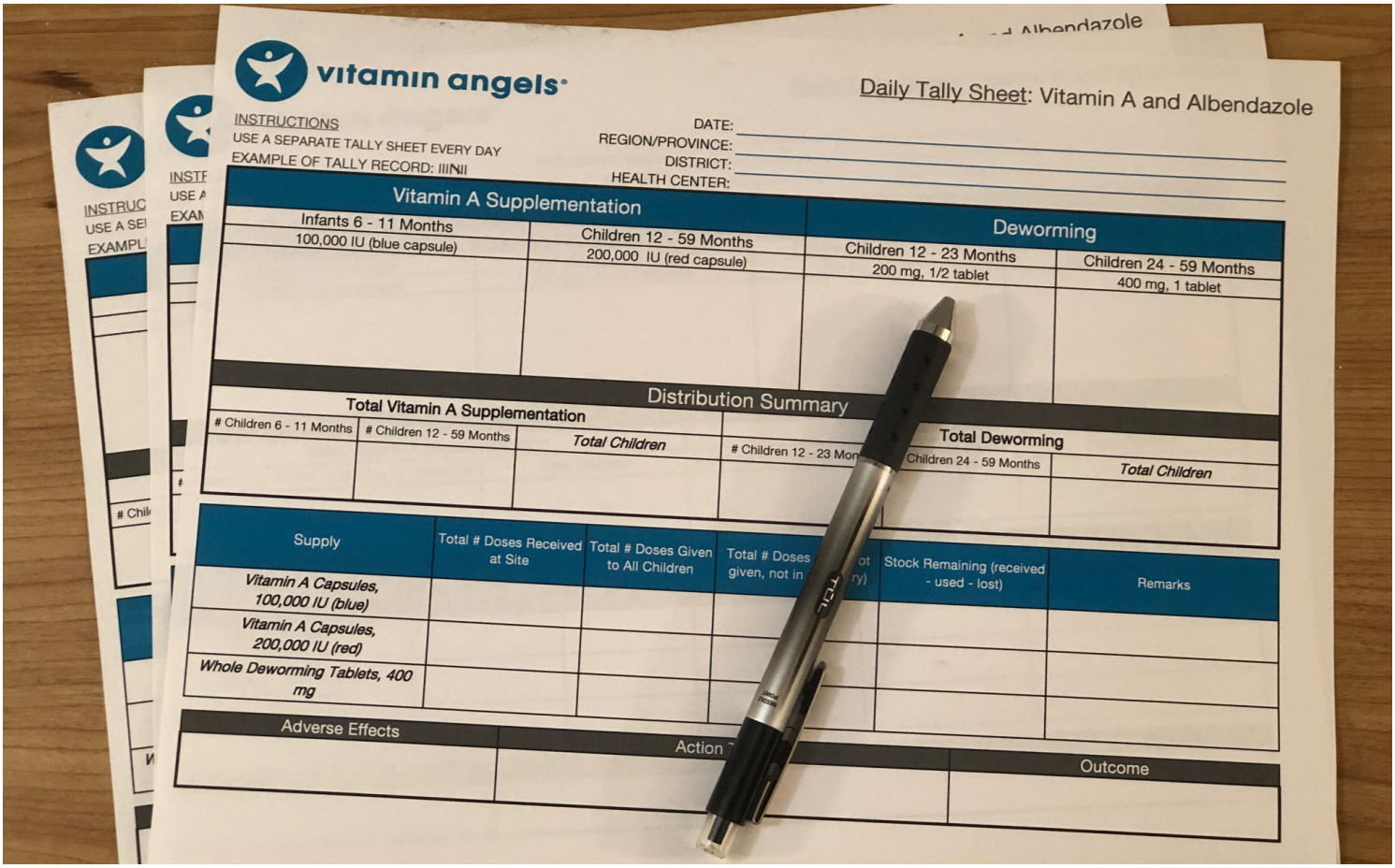
Use a separate page if needed.

Information for Offsite Supervisors

- **Tally sheets can be used to help prepare a report to the person responsible for the distribution program.**
- **Tally sheets can be useful for reviewing the amount of vitamin A stock levels available and determining the amount of vitamin A to re-order for future vitamin A distributions.**

Points to Remember

- Recordkeeping is an important part of any health service activity.
- You should include a record of vitamin A administration as part of your existing record systems.
- You can record vitamin A supplementation on health cards, immunization cards or other forms.
- You must record information about every child who receives vitamin A supplementation. This must include information about the child; about the dose of vitamin A; about any deworming that is done; and about their next appointment.
- The sample immunization/child health card that includes vitamin A distribution is on page 70; this shows what information you need to record.
- If your cards do not have a set space for vitamin A data, you can write a capital A on the form and insert the data in one of the corners.
- Make sure that whatever you write can be understood by anyone in your country.
- You often need to use tally sheets, and to give these to your supervisors or health authorities. They need to be filled in correctly, and on time.
- The sample tally sheet on page 68 shows you what information you need to record
- You need to fill in a tally sheet whenever you dose someone with vitamin A or a deworming agent.
- When you are filling in tally sheets, you also need to complete immunization important to fill these in immediately, so you do not forget.
- If you are an onsite supervisor, you need to review each tally sheet with the health worker before you leave the distribution site.
- Onsite supervisors must deliver the tally sheet to the local health authorities. They should also prepare a summary sheet for the health authority sponsoring the distribution.
- Offsite supervisors can use tally sheets to prepare a report for the person responsible for the distributions.
- Offsite supervisors can also use tally sheets to review the amount of vitamin A stock levels available and determine the amount of vitamin A to re-order for future vitamin A distribution under their authority.



12 Vitamin A Supplements for Women

About this Chapter

Chapter 12 explains the correct methods of supplementation for pregnant women and women of childbearing age, based on the updated 2011 World Health Organization (WHO) Guidelines.

Based on the same guidelines, vitamin A supplementation is not recommended for pregnant or postpartum women. The chapter also emphasizes the role of diet in nutrition, recommending that all women, including pregnant women and postpartum women, should be encouraged to receive adequate nutrition by eating a healthy, balanced diet. There is also guidance on how to find information about how to treat both pregnant and postpartum women who have night blindness or xerophthalmia.

General Guidance

Vitamin A is an essential nutrient, and adequate intake by all individuals, including pregnant and lactating women, is important for health. Research to date, however, has not demonstrated that improving maternal vitamin A status also improves maternal or infant morbidity and mortality.

Pregnant women or women of childbearing age who could be pregnant should NOT be given high-dose vitamin A supplements (over 10,000 IU). A large dose of vitamin A given early in pregnancy may damage the unborn child.

Vitamin A Supplements for Pregnant Women and Women of Child-bearing Age

Pregnant women or women of childbearing age who could be pregnant should NOT be given high-dose vitamin A supplements (over 10,000 IU). A large dose of vitamin A given early in pregnancy may damage the unborn child.[1,2]

Universal Distribution

- According to the 2011 WHO Guideline, vitamin A supplementation is NOT recommended during pregnancy as part of routine antenatal care for the prevention of maternal and infant morbidity and mortality.[3]
- Pregnant women should be encouraged to receive adequate nutrition – which is best achieved by eating a healthy, balanced diet – and to refer to guidelines on healthy eating during pregnancy.[4]

Targeted Treatment

- In areas where there is a severe public health problem related to vitamin A deficiency, vitamin A supplementation during pregnancy is recommended for the prevention of night blindness. A suggested vitamin A supplementation scheme is presented in Table 1 in the *WHO Guideline: Vitamin A supplementation in pregnant women, 2011.*[3] When determining the vitamin A status of a population, guidelines on indicators for assessing vitamin A deficiency should be used.[5, 6]
- Recommendations for treatment of xerophthalmia in women of reproductive age are covered in Chapter 14 of this manual.[7]

Vitamin A Supplements for Postpartum Women

In the past, universal distribution of vitamin A supplementation was recommended for postpartum women. However, in 2011, the WHO released updated guidelines for providing vitamin A supplements to postpartum women. These are shared below.

Vitamin A supplementation in postpartum women is NOT recommended for the prevention of maternal and infant morbidity and mortality

Universal Distribution

- Because research has not demonstrated that improving vitamin A status in postpartum women also improves maternal or infant morbidity and mortality, according to the 2011 WHO Guideline, vitamin A supplementation in postpartum women is NOT recommended for the prevention of maternal and infant morbidity and mortality.[8]
- This 2011 WHO Guideline replaces and updates previous recommendations on vitamin A supplementation in mothers for the prevention of vitamin A deficiency[7] and for improving the vitamin A status of mothers and their infants.[9]
- Postpartum women should be encouraged to receive adequate nutrition – which is best achieved by eating a balanced, healthy diet – and to refer to guidelines on healthy eating during lactation.[4]

Targeted Treatment

- Recommendations for the treatment of xerophthalmia in women of reproductive age are covered in Chapter 14 in this manual.[7]

Points to Remember

- Vitamin A is an essential nutrient, and adequate intake is important for health. However, pregnant women – or women of childbearing age who could be pregnant – should NOT be given high dose vitamin A supplements (over 10,000 IU).
- Large doses of vitamin A given early in pregnancy may damage the unborn child.
- Because of possible damage to the unborn child, vitamin A supplementation is NOT recommended during pregnancy as part of routine antenatal care for the prevention of maternal and infant morbidity and mortality.
- Vitamin A supplementation is NOT recommended for postpartum women as part of a universal distribution program because research has not demonstrated benefits to either the mother or her infant.
- Pregnant women and postpartum women should be encouraged to receive adequate nutrition by eating a healthy, balanced diet.
- Severe vitamin A deficiencies and related health problems such as night blindness and xerophthalmia in pregnant women, women of childbearing age, or postpartum women need to be treated in accordance with updated 2011 WHO Guidelines.

Vitamin A supplementation is NOT recommended during pregnancy as part of routine antenatal care for the prevention of maternal and infant morbidity and mortality

13 Vitamin A and Infants Less than 6 Months of Age

About this Chapter

This chapter looks at why it is important to promote exclusive breastfeeding of infants up to 6 months of age. It examines why this is especially vital in countries with high rates of vitamin A deficiency (VAD) and explains how long a mother should exclusively breastfeed her infant.

Chapter 13 also provides updated guidance for vitamin A supplementation in children under 6 months of age based on the latest WHO recommendations. This recommendation states that vitamin A supplementation delivered through universal distribution programs is NOT recommended for infants 1–5 months of age for the reduction of morbidity and mortality.

Breastfeeding to Deliver Vitamin A[1]

There is considerable evidence that newborn infants are born with limited reserves of vitamin A. This applies particularly to infants in countries with high rates of VAD. When a lactating mother has sufficient vitamin A stores, she passes vitamin A to her child through breast milk. This ensures the child's adequate vitamin A status.

As a result, the promotion and support of breastfeeding should be an important part of any strategy to prevent VAD.[2] A mother should breastfeed her infant exclusively for its first 6 months of life without using other foods or liquids. Once the child is 6 months old, the mother should introduce complementary foods. However, she should also continue breastfeeding – generally until the child is 2 years of age.

Those who administer vitamin A supplementation should always:

- **Encourage mothers to feed their infants using breast milk exclusively until the infant is 6 months of age;**

And, where possible:

- **Advise mothers on the benefits of breastfeeding;**
- **Advise mothers how to breastfeed adequately.**

Breastfeeding Recommendations[1]

- **Mothers should eat a balanced diet and drink plenty of liquids in order to ensure a good milk supply.**
- **Mothers should start breastfeeding shortly after delivery (within the first hour).**
- **Mothers should be instructed on the proper attachment of the child to the breast.**
- **Frequent breastfeeding should be promoted. This is because it stimulates adequate breast milk production to meet the daily requirements of the child.**
- **The child should be breastfed as often and as long as the child wants, day and night; this should be up to every 2 ½ to 3 hours or between 8 to 12 times a day.**
- **Mothers should not give their children any food or drink (including water) other than breast milk, during the first 6 months.**
- **Feeding bottles and pacifiers should not be used.**

Vitamin A Supplements for Infants Less than 6 Months of Age

In the past, universal distribution of vitamin A supplements (50,000 IU) was recommended for non-breastfed infants less than 6 months of age and breastfed infants less than 6 months of age whose mothers did not receive postpartum vitamin A supplementation.[2]

In 2011 however, the WHO updated its guidelines for providing vitamin A supplements to infants 1–5 months of age. These are given below.

Universal Distribution

- **Because research has not demonstrated that improving the vitamin A status of infants less than 6 months of age improves infant morbidity or mortality, according to the 2011 WHO Guideline, vitamin A supplementation delivered through universal distribution programs is NOT recommended for infants 1–5 months of age for the reduction of morbidity and mortality.[3]**
- **The 2011 WHO Guideline replaces previous recommendations for vitamin A supplementation for the prevention of vitamin A deficiency, xerophthalmia and nutritional blindness in infants and children less than 6 months of age.[2]**
- **Mothers should be encouraged to exclusively breastfeed their infants for the first 6 months of life to help them achieve optimal growth, development and health.**
- **The effects of vitamin A supplements on infants 1–5 months of age do not vary by maternal exposure to vitamin A, whether the supplement is given as a single dose or in multiple doses, or by timing of the intervention (when given alongside the DTP/polio vaccines or independent of them).**

Vitamin A supplementation delivered through universal distribution programs is NOT recommended for infants 1–5 months of age for the reduction of morbidity and mortality.

Targeted Treatment

- **Recommendations for the treatment of xerophthalmia and measles in infants less than 6 months of age are covered in Chapter 14 of this reference manual.**

Points to Remember

- Newborn children have limited reserves of vitamin A, especially in countries with high levels of vitamin A deficiency (VAD).
- Lactating mothers with sufficient vitamin A stores pass this nutrient to their children through breast milk.
- Promoting and supporting exclusive breastfeeding is an important part of preventing VAD in infants.
- Women should be encouraged to follow breastfeeding recommendations. These relate to their diet and that of their babies, attachment, use of pacifiers, feeding bottles, how soon they can start breastfeeding after their baby is born, and how often they should breastfeed their child every day.
- Children should be breastfed exclusively for the first 6 months of their lives.
- Although complementary foods should be introduced at 6 months, breastfeeding can continue until the child is 2 years old.
- According to the new WHO Guideline, universal vitamin A supplementation is NOT recommended for children under 6 months of age.
- The new guidelines explain that research has not shown a reduction in infant morbidity or mortality following vitamin A supplementation during the first 6 months of life. Therefore, breastfeeding remains the optimal method for ensuring that infants get their supply of vitamin A.

14 Treating Women and Children with Selected Health Conditions

About this Chapter

Chapter 14 explains how to handle and treat women and children with certain common health conditions. It advises people who operate universal distribution programs on when to refer children to health care providers for further evaluation and treatment.

The chapter sets out what to do when children are infected with measles, or are living in areas where measles is a common infection. It outlines hygiene requirements for when you come into contact with a child who is sick with measles. This section also covers dosing requirements for children with measles. This information is supported by a supplementation schedule.

Next, the chapter explains what to do when children are suffering from severe protein-energy malnutrition (PEM). This section also covers dosing requirements for children with PEM. This information is supported by a supplementation schedule.

The chapter explains how to treat women with eye conditions such as Bitot's spots or xerophthalmia. It includes a schedule for the treatment of women of reproductive age who have corneal xerophthalmia.

Finally, Chapter 14 shows how to treat infants and children of all ages with eye conditions such as Bitot's spots or xerophthalmia. This information is supported by a supplementation schedule.

Treating Infants and Children [1,2]

In general, any infant or child who is sick or otherwise eligible to receive vitamin A should be given vitamin A.

This reference manual does not explain how to diagnose or comprehensively treat infants or children who are sick with any condition. If you operate a universal distribution program, however, you are likely to see children who are sick. The manual therefore shows you how to handle and dose children with certain common health conditions.

In all circumstances, you need to refer sick infants and children immediately to a health care provider for further evaluation and treatment. This should happen immediately after the sick infant or child has been dosed with vitamin A.

Sometimes, giving vitamin A is specifically contraindicated. If a child has severe difficulty breathing, the sick infant or child must not be dosed. Instead, he or she must be referred directly to a health care provider for further evaluation and treatment.

Infants and Children with Measles [3]

All children who are infected with measles must be provided with high dose vitamin A supplementation. If you administer vitamin A to children when they are diagnosed with measles, this decreases both the severity of disease and the case fatality rate.

Children who live in areas where measles is a common infection should also receive vitamin A supplementation as a preventative measure.

If children who come for supplementation are sick with measles, if possible you must:

- **separate them from other children**
- **supplement them with vitamin A**
- **refer them immediately to a health care professional for further evaluation and treatment.**

If you are administering vitamin A and come in contact with a sick child, wash your hands immediately with an alcohol-based hand sanitizer, or soap and clean water.

Treating Children with Measles [3,4]

- **Administer the first dose of vitamin A on the day measles is diagnosed. The exact dosage depends on the child's age.**
- **Administer the second dose the next day.**
- **If the caregiver is not able to return for the second and subsequent dose, give him/her the vitamin A supplement to administer at home. Before sending vitamin A home with a caregiver, make sure that you demonstrate proper VAS administration practices to the caregiver individually. These include hand hygiene, cutting of the capsule, squeezing the vitamin A into the child's mouth, and disposing of the empty capsule.**
- **Refer to the age-specific dosing schedule for giving vitamin A supplements to children with measles, as follows:**

Supplementation Schedule During Measles: Children 0– 59 Months of Age

Immediately upon presentation/diagnosis:		
Target group	**Dose**	**How often**
Infants 0–5 months	50,000 IU, administered orally	Once
Infants 6–11 months	100,000 IU, administered orally	Once
Children 12–59 months	200,000 IU, administered orally	Once
Next day:		
As above	Same age-specific doses as above	Once
At least 2 weeks later:		
As above	Same age-specific doses as above	Once

Infants and Children with Protein-Energy Malnutrition [5]

Children with severe protein-energy malnutrition (PEM) are at increased risk of having or developing vitamin A deficiency (VAD).

If you come into contact with a child with severe PEM, and if they show signs of visible wasting, or edema of both feet, you must:

- **give them a high dose of vitamin A supplement immediately on diagnosis**
- **refer the child immediately to hospital for treatment.**

High dose vitamin A supplements should only be given to children who have not already received vitamin A within the last 4 weeks.

Treating Children with PEM [5]

- **Administer a single high dose of vitamin A supplement to children with severe PEM immediately after this has been diagnosed. The exact dosage depends on the child's age.**
- **Refer to the age-specific dosing schedule for giving vitamin A supplements to children with severe PEM, as follows:**

Vitamin A Treatment Schedule During Severe Protein-Energy Malnutrition: Children 0–59 Months of Age

Immediately upon presentation/diagnosis:		
Target group	**Dose**	**How often**
Infants 0–5 months	50,000 IU, administered orally	Once
Infants 6–11 months	100,000 IU, administered orally	Once
Children 12–59 months	200,000 IU, administered orally	Once

Infants, Children, and Women with Eye Conditions

According to the WHO, all women of reproductive age, infants, and children with night blindness or Bitot's spots should be treated with vitamin A supplementation. Community campaigns create an opportunity to provide this.

Treating Women with Night Blindness or Bitot's Spots [6]

Women of reproductive age with night blindness or Bitot's spots should be treated with a daily dose of 5,000–10,000 IU of vitamin A for at least 4 weeks.

- **This daily dose should never exceed 10,000 IU.**
- **However, you can substitute a weekly dose that does not exceed 25,000 IU.**

Treating Women with Acute Corneal Lesions [6]

Sometimes, women of reproductive age show severe signs of active xerophthalmia (also known as acute corneal lesions).

According to the WHO, when this happens, the possible teratogenic effect (i.e., malformation of fetus or other risks) of a high dose of vitamin A to the fetus should be balanced against the serious consequences of VAD for the woman and her fetus.

- **This applies to all women of reproductive age, including both those who are pregnant and those who are not pregnant.**
- **When you encounter a woman of reproductive age with severe signs of active xerophthalmia, the high-dose treatment for corneal xerophthalmia shown below can be administered:[5]**

Supplementation Schedule for Treatment of Corneal Xerophthalmia in Women of Reproductive Age

Immediately upon presentation/diagnosis:		
Target group	**Dose**	**How often**
Women of reproductive age	200,000 IU, administered orally	Once
Next day:		
As above	Doses as above	Once
At least 2 weeks later:		
As above	Doses as above	Once

Treating Infants and Children with Eye Conditions[5]

This schedule explains how to treat infants and children with eye conditions such as Bitot's spots or xerophthalmia:

- **Administer the first dose of vitamin A on the day the eye condition is diagnosed. The exact dosage depends on the child's age.**
- **Administer the second dose the next day.**
- **If the caregiver is not able to return for the second or subsequent dose, give the caregiver the vitamin A supplement to administer at home. Before sending vitamin A home with a caregiver, make sure that you demonstrate proper VAS administration practices to the caregiver individually. These include hand hygiene, cutting of the capsule, squeezing the vitamin A into the child's mouth, and disposing of the empty capsule.**

Supplementation Schedule for Treatment of Xerophthalmia in Infants and Children of all Ages

Immediately upon presentation/diagnosis:		
Target group	**Dose**	**How often**
Infants 0–5 months	50,000 IU, administered orally	Once
Infants 6–11 months	100,000 IU, administered orally	Once
Children > 12 months	200,000 IU, administered orally	Once
Next day:		
As above	Same age-specific doses as above	Once
At least 2 weeks later:		
As above	Same age-specific doses as above	Once

Points to Remember

- Any infant or child who is sick or otherwise eligible to receive vitamin A should be given this.
- In all circumstances, you need to refer sick infants and children immediately to a health care provider for further evaluation and treatment.

- This should happen immediately after the sick infant or child has been given vitamin A.

- This should also happen even if the sick infant or child is not given vitamin A.

- All children who are infected with measles must be separated from other children and provided with high-dose vitamin A supplementation.
- Children who live in areas where measles is a common infection should also receive high-dose vitamin A supplementation.
- Follow the measles supplementation schedule for infants and children.
- When administering vitamin A to children infected with measles, make sure to follow hygiene guidelines.
- If the caregiver is not able to return for the second dose, they can administer this at home. Before sending vitamin A home with a caregiver, make sure that you demonstrate proper VAS administration practices to the caregiver individually. These include hand hygiene, cutting of the capsule, squeezing the vitamin A into the child's mouth, and disposing of the empty capsule.
- If you come into contact with a child with severe protein-energy malnutrition (PEM), and they show signs of visible wasting or edema of both feet, you must give them a high dose of vitamin A supplement immediately on diagnosis.
- You must also refer him or her immediately to hospital for treatment.
- High dose vitamin A supplements should only be administered to children with PEM who have not already received this within the last 4 weeks.
- Follow the PEM supplementation schedule for infants and children.
- The WHO recommends that all women of reproductive age, infants, and children with xerophthalmia, night blindness, or Bitot's spots are treated with vitamin A supplementation.
- Follow the treatment schedule for women with night blindness, xerophthalmia, and Bitot's spots.
- Vitamin A supplementation can affect the development of the fetus, so you need to follow the WHO guidelines when you are treating women of reproductive age with acute xerophthalmia.
- Follow the treatment schedule of infants and young children with xerophthalmia.

APPENDICES

A B C D E

F G H I

VITAMIN A SUPPLEMENTATION (VAS)

Vitamin Angels--List for Prioritizing Our Projects for Support

Vitamin Angels supports VAS projects in countries that are categorized by WHO as experiencing moderate to severe VAD.
We support albendazole for STH (only where/when product supplies are available in countries listed as experiencing endemic conditions as determined by WHO)

=> All infants and children 6 - 59 months of age should receive supplementation if they reside in a community in which VAD is classified as being of "public health significance"
=> "Public health significance" means 15% or more of children sampled have serum retinol levels < .7 umol/L; OR where U5MR is > 50 per 1000 live births
=> WHO/UNICEF further define "Public health significance" for purposes of programmatic prioritization; universal VAS is recommended for use in both categories:
-Countries experiencing "severe VAD" means > 20% of preschool-age children have serum retinol < .7 umol/L.
-Countries experiencing "moderate VAD" means ≥ 10% and ≤ 20% of preschool-age children have serum retinol < .7 umol/L.

When to phase out vitamin A supplementation WHO/UNICEF recommendation:

=> VAD Prevalence as determined by both clinical and biochemical measures is below minimum public health significance levels for an extended period of time
=> Concurrently, U5MR is in long term decline

Prevalence cut-offs to define vitamin A deficiency (VAD) in a population and its level of public health significance (Biochemical)

Public health importance (degree of severity)	Serum or plasma retinol <0.70 µmol/l in preschool-age children or pregnant women (prevalence in population)
Severe (73 Countries)	≥20%
Moderate (49 Countries)	≥10% – <20%
Mild (32 Countries)	≥ 2% – <10%
None (39 Countries)	No public health problem assumed
NS (3 Countries)	Not Specified

122 countries are classified as having a moderate to severe public health problem based on biochemical VAD in preschool-age children.

Country (*Yellow highlight = Country with Moderate or Severe VAD)	Population under 5 (number of children) (000) (2015)	Estimated population w/ VAD (number of children) (000) (2009)	WHO VAD as a public health problem (122) 2009	Soil-transmitted helminthiasis (Ascariasis, trichuriasis, hookworm disease) Drug(s) used: **ALB** or **MBD**	VAS Coverage Rate (6-59 months) 2008 Full coverage (%)	VAS Coverage Rate (6-59 months) 2014 Full coverage (%)	Under 5 mortality rate					2015	Infant mortality rate (under 1)					2015
							1960	1980	2000	2010	2015	Rank	1960	1980	2000	2010	2015	Rank
Afghanistan	4,950	3,109	Severe	✓ = endemic	96	95	360	280	257	149	91	**16**	245	185	165	103	66	**12**
Albania	185	47	Moderate	No info	--	–	151	72	25	18	14	**112**	105	55	22	16	13	**108**
Algeria	4,590	505	Moderate	✓ = endemic	--	–	261	134	44	36	26	**79**	166	94	37	31	22	**78**
Andorra	3	N/A	None	No info	--	–		-	4	4	3	**182**	-	-	3	3	2	**186**
Angola	4,718	1,982	Severe	✓ = endemic	82	6	345	265	260	161	157	**1**	208	158	154	98	96	**1**
Antigua and Barbuda	7	1	Mild	✓=endemic	90w	–	-	-	15	8	8	**142**	-	-	13	7	6	**147**
Argentina	3,718	478	Moderate	No info	--	–	73	41	19	14	13	**120**	61	36	17	12	11	**121**
Armenia	207	1	None	No info	--	–	-	76	36	20	14	**112**	-	62	32	18	13	**108**
Australia	1,546	N/A	None	No info	--	–	24	13	6	5	4	**166**	20	11	5	4	3	**168**
Austria	404	N/A	None	No info	--	–	43	17	6	4	4	**166**	37	14	5	4	3	**168**
Azerbaijan	930	176	Severe	No info	--	58	-	123	93	46	32	**68**	-	95	77	39	28	**67**
Bahamas	29	N/A	None	✓=endemic	--	–	68	35	19	16	12	**125**	51	28	15	14	10	**128**
Bahrain	109	N/A	None	Not prevalent	--	–	150	30	12	10	6	**153**	94	23	10	9	5	**153**
Bangladesh	15,331	4,112	Severe	✓ = endemic	97	0	248	205	92	48	38	**61**	149	129	66	38	31	**60**
Barbados	17	1	Mild	✓=endemic	--	–	90	29	13	20	13	**120**	74	22	12	17	12	**116**
Belarus	586	79	Moderate	No info	--	–	-	26	17	6	5	**159**	-	22	15	4	3	**168**
Belgium	653	N/A	None	No info	--	–	35	15	6	4	4	**166**	31	12	5	4	3	**168**
Belize	39	4	Moderate	✓ = endemic	--	–	-	71	23	17	17	**99**	-	54	20	14	14	**101**
Benin	1,708	1,052	Severe	✓ = endemic	52	99	296	214	160	115	100	**8**	176	127	95	73	64	**15**
Bhutan	66	13	Severe	✓ = endemic	--	–	300	227	100	56	33	**67**	175	135	77	44	27	**68**
Bolivia	1,186	271	Severe	✓ = endemic	45	–	255	175	84	54	38	**61**	152	115	63	42	31	**60**
Bosnia and Herzegovina	172	26	Moderate	No info	--	–	160	39	17	8	5	**159**	105	31	14	8	5	**153**
Botswana	266	57	Severe	✓ = endemic	--	70	173	84	101	48	44	**55**	118	62	74	36	35	**50**
Brazil	15,032	2,405	Moderate	✓ = endemic	--	–	176	91	30	19	16	**104**	115	70	27	17	15	**97**
Brunei Darussalam	34	N/A	None	Not prevalent	--	–	87	22	9	7	10	**133**	63	19	8	6	9	**131**
Bulgaria	337	62	Moderate	No info	--	–	70	24	16	13	10	**133**	49	20	14	11	9	**131**
Burkina Faso	3,144	1,415	Severe	✓ = endemic	100	98	308	241	194	176	89	**18**	183	143	116	93	61	**16**

Country (**Yellow highlight = Country with Moderate or Severe VAD*)	Population under 5 (number of children) (000) (2015)	Estimated population w/ VAD (number of children) (000) (2009)	WHO VAD as a public health problem (122) 2009	Soil-transmitted helminthiasis (Ascariasis, trichuriasis, hookworm disease) Drug(s) used: **ALB** or **MBD**	VAS Coverage Rate (6-59 months) 2008 Full coverage (%)	VAS Coverage Rate (6-59 months) 2014 Full coverage (%)	Under 5 mortality rate					2015	Infant mortality rate (under 1)					2015
							1960	1980	2000	2010	2015	Rank	1960	1980	2000	2010	2015	Rank
Burundi	2,062	408	Severe	✓ = endemic	80	69	238	191	181	142	82	**21**	141	114	109	88	54	**24**
Cabo Verde	54	1	Mild	✓=endemic	--	–	-	80	42	36	25	**80**	-	61	31	29	21	**80**
Cambodia	1,772	377	Severe	✓ = endemic	88	71	-	153	104	51	29	**71**	-	104	78	43	25	**71**
Cameroon	3,738	1,106	Severe	✓ = endemic	--	96	255	173	151	136	88	**19**	151	105	88	84	57	**20**
Canada	1,942	N/A	None	No info	--	–	33	13	6	6	5	**159**	28	11	5	5	4	**160**
Central African Republic	708	455	Severe	✓ = endemic	68	34	349	189	186	159	130	**4**	198	121	120	106	92	**2**
Chad	2,632	973	Severe	✓ = endemic	0	96	-	228	205	173	139	**2**	-	135	122	99	85	**4**
Chile	1,170	97	Mild	No info	--	–	155	45	11	9	8	**142**	118	35	10	8	7	**140**
China	83,186	7,877	Mild	✓=endemic	--	–	-	60	37	18	11	**130**	-	47	30	16	9	**131**
Colombia	3,738	262	Mild	✓=endemic	--	–	122	51	26	19	16	**104**	77	37	20	17	14	**101**
Comoros	119	28	Severe	✓ = endemic	20	14	265	165	84	86	74	**25**	200	120	62	63	55	**23**
Congo	759	144	Severe	✓ = endemic	10	99	198	102	117	93	45	**52**	118	66	74	61	33	**57**
Cook Islands	2	0	Moderate	✓ = endemic	--	–	-	37	24	9	8	**142**	-	28	20	8	7	**140**
Costa Rica	350	35	Mild	✓=endemic	--	–	123	31	14	10	10	**133**	87	26	13	9	9	**131**
Côte d'Ivoire	3,667	1,633	Severe	✓ = endemic	--	99	-	169	136	123	93	**13**	-	115	95	86	67	**11**
Croatia	207	19	Mild	No info	90	–	98	23	8	6	4	**166**	70	20	7	5	4	**160**
Cuba	588	23	Mild	✓=endemic	--	–	54	22	9	6	6	**153**	37	22	7	5	4	**160**
Cyprus	66	N/A	None	No info	--	–	36	20	6	4	3	**182**	30	18	5	3	3	**168**
Czech Republic	538	27	Mild	No info	--	–	25	19	5	4	3	**182**	22	17	4	3	3	**168**
Democratic People's Republic of Korea	1,747	441	Severe	✓ = endemic	98	99	120	43	55	33	25	**80**	85	32	42	26	20	**81**
Democratic Republic of the Congo	13,876	7,236	Severe	✓ = endemic	85	99	302	210	205	170	98	**9**	174	133	129	112	75	**6**
Denmark	295	N/A	None	No info	--	–	25	10	6	4	4	**166**	22	9	5	3	3	**168**
Djibouti	102	38	Severe	✓ = endemic	86	–	-	205	147	91	65	**32**	-	134	97	73	54	**24**
Dominica	6	0	Mild	✓=endemic	--	–	-	-	17	12	21	**89**	-	-	15	11	20	**81**
Dominican Republic	1,062	152	Moderate	✓ = endemic	--	–	149	92	40	27	31	**70**	102	71	33	22	26	**70**
Ecuador	1,610	208	Moderate	✓ = endemic	--	–	178	98	32	20	22	**84**	107	64	27	18	18	**90**
Egypt	12,116	1,027	Moderate	✓ = endemic	68w	–	278	176	51	22	24	**82**	185	119	40	19	20	**81**
El Salvador	520	113	Moderate	✓ = endemic	--	–	191	118	35	16	17	**99**	129	84	29	14	14	**101**
Equatorial Guinea	128	11	Moderate	✓ = endemic	--	–	-	-	200	121	94	**11**	-	-	120	81	68	**10**
Eritrea	815	173	Severe	✓ = endemic	49	49	-	192	97	61	47	**49**	-	116	61	42	34	**53**
Estonia	72	6	Mild	No info	--	–	52	24	11	5	3	**182**	40	20	9	4	2	**186**
Ethiopia	14,602	6,195	Severe	✓ = endemic	88	71	273	212	151	106	59	**37**	162	126	92	68	41	**42**
Fiji	88	12	Moderate	✓ = endemic	--	–	-	41	18	17	22	**84**	-	33	16	15	19	**85**
Finland	304	N/A	None	No info	--	–	28	9	4	3	2	**193**	22	8	4	2	2	**186**
France	3,927	N/A	None	No info	--	–	34	13	5	4	4	**166**	29	10	4	3	4	**160**
Gabon	239	27	Moderate	✓ = endemic	0	–	-	115	91	74	51	**42**	-	73	60	54	36	**47**
Gambia	366	167	Severe	✓ = endemic	28	27	360	214	132	98	69	**29**	204	133	94	57	48	**30**
Georgia	275	73	Severe	No info	--	–	-	57	37	22	12	**125**	-	48	32	20	11	**121**
Germany	3,384	N/A	None	No info	--	–	40	16	5	4	4	**166**	34	13	4	3	3	**168**
Ghana	4,056	2,422	Severe	✓ = endemic	24	23	212	150	113	74	62	**35**	126	92	72	50	43	**38**
Greece	533	N/A	None	No info	--	–	64	23	7	4	5	**159**	53	20	6	3	4	**160**
Grenada	10	1	Moderate	✓ = endemic	--	–	-	-	26	11	12	**125**	-	-	21	9	11	**121**
Guatemala	2,089	326	Moderate	✓ = endemic	20	19	202	139	53	32	29	**71**	136	97	39	25	24	**72**
Guinea	2,046	707	Severe	✓ = endemic	94	–	-	282	184	130	94	**11**	-	167	111	81	61	**16**
Guinea-Bissau	289	176	Severe	✓ = endemic	66	98	-	-	218	150	93	**13**	-	-	129	92	60	**18**
Guyana	67	3	Mild	✓ = endemic	--	–	-	106	70	30	39	**59**	-	77	52	25	32	**59**
Haiti	1,238	398	Severe	✓ = endemic	--	30	247	200	109	165	69	**29**	165	134	79	70	52	**27**
Holy See	0	NS	NS	No info	--	–	-	-	-	–	–	**–**	-	-	-	–	–	
Honduras	816	130	Moderate	✓ = endemic	--	–	204	102	40	24	20	**94**	137	74	32	20	17	**94**
Hungary	463	33	Mild	No info	--	–	57	26	11	6	6	**153**	51	24	9	5	5	**153**
Iceland	23	N/A	None	No info	--	–	22	8	3	2	2	**193**	17	8	3	2	2	**186**
India	123,711	78,643	Severe	✓ = endemic	53	61	236	156	89	63	48	**48**	158	107	66	48	38	**45**
Indonesia	24,864	4,261	Moderate	✓ = endemic	86	84	216	125	48	35	27	**77**	128	79	36	27	23	**75**
Iran (Islamic Republic of)	6,855	31	None	✓ = endemic	--	–	281	130	44	26	16	**104**	164	92	36	22	13	**108**
Iraq	5,727	1,256	Severe	✓ = endemic	--	–	158	80	48	39	32	**68**	109	60	38	31	27	**68**
Ireland	353	N/A	None	No info	--	–	36	14	7	4	4	**166**	31	12	6	3	3	**168**
Israel	832	N/A	None	No info	--	–	39	19	7	5	4	**166**	32	16	6	4	3	**168**

Appendix A: VAS Priority Countries – page 3

Country (*Yellow highlight = Country with Moderate or Severe VAD)	Population under 5 (number of children) (000) (2015)	Estimated population w/ VAD (number of children) (000) (2009)	WHO VAD as a public health problem (122) 2009	Soil-transmitted helminthiasis (Ascariasis, trichuriasis, hookworm disease) Drug(s) used: **ALB** or **MBD**	VAS Coverage Rate (6-59 months) 2008 Full coverage (%)	VAS Coverage Rate (6-59 months) 2014 Full coverage (%)	Under 5 mortality rate					2015	Infant mortality rate (under 1)					2015
							1960	1980	2000	2010	2015	Rank	1960	1980	2000	2010	2015	Rank
Italy	2,570	N/A	None	No info	--	–	50	17	5	4	4	**166**	44	15	5	3	3	**168**
Jamaica	204	81	Severe	✓ = endemic	--	–	75	46	32	24	16	**104**	56	36	26	20	14	**101**
Japan	5,269	N/A	None	No info	--	–	40	11	5	3	3	**182**	31	8	3	2	2	**186**
Jordan	980	108	Moderate	Not prevalent	--	–	139	65	30	22	18	**96**	97	52	25	18	15	**97**
Kazakhstan	1,948	340	Severe	No info	--	–	-	73	43	33	14	**112**	-	60	37	29	13	**108**
Kenya	7,166	5,200	Severe	✓ = endemic	27	28	205	115	117	85	49	**46**	122	73	77	55	36	**47**
Kiribati	15	2	Severe	✓ = endemic	--	–	-	-	70	49	56	**39**	-	-	52	39	44	**33**
Kuwait	348	N/A	None	No info	--	–	128	35	11	11	9	**139**	89	29	9	10	7	**140**
Kyrgyzstan	780	133	Severe	No info	99	–	-	110	51	38	21	**89**	-	90	44	33	19	**85**
Lao People's Democratic Republic	839	320	Severe	✓ = endemic	--	89	235	200	101	54	67	**31**	155	135	77	42	51	**29**
Latvia	95	13	Moderate	No info	--	–	44	26	13	10	8	**142**	35	21	11	8	7	**140**
Lebanon	461	40	Moderate	No info	--	–	85	44	32	22	8	**142**	65	38	28	19	7	**140**
Lesotho	278	89	Severe	✓ = endemic	--	67	203	130	108	85	90	**17**	151	101	86	65	69	**8**
Liberia	701	365	Severe	✓ = endemic	--	0	288	235	235	103	70	**27**	190	157	157	74	53	**26**
Libya	649	54	Mild	Not prevalent	--	–	270	70	22	17	13	**120**	159	55	20	13	11	**121**
Liechtenstein	2	NS	NS	No info	--	–	-	-	6	2	–	**–**	-	-	5	2	–	
Lithuania	152	17	Moderate	No info	--	–	70	22	11	7	5	**159**	52	19	8	5	3	**168**
Luxembourg	32	N/A	None	No info	--	–	41	16	5	3	2	**193**	33	12	4	2	2	**186**
Madagascar	3,770	1,323	Severe	✓ = endemic	97	99	186	175	137	62	50	**44**	112	106	84	43	36	**47**
Malawi	2,954	1,436	Severe	✓ = endemic	95	41	362	266	155	92	64	**33**	218	158	95	58	43	**38**
Malaysia	2,477	97	Mild	✓ = endemic	--	–	113	42	14	6	7	**148**	72	31	11	5	6	**147**
Maldives	37	3	Mild	✓ = endemic	--	–	-	168	54	15	9	**139**	-	110	43	14	7	**140**
Mali	3,271	1,317	Severe	✓ = endemic	97	–	500	300	224	178	115	**6**	285	176	124	99	75	**6**
Malta	19	1	Mild	No info	--	–	42	17	7	6	6	**153**	37	14	6	5	5	**153**
Marshall Islands	5	4	Severe	✓ = endemic	--	–	-	-	68	26	36	**63**	-	-	55	22	30	**63**
Mauritania	601	217	Severe	✓ = endemic	87	89	310	170	125	111	85	**20**	182	108	79	75	65	**14**
Mauritius	71	9	Mild	✓ = endemic	--	–	92	42	18	15	14	**112**	67	33	16	13	12	**116**
Mexico	11,617	2,799	Severe	✓ = endemic	--	–	133	77	39	17	13	**120**	93	58	32	14	11	**121**
Micronesia	12	8	Severe	✓ = endemic	--	–	-	65	47	42	35	**65**	-	50	37	34	29	**64**
Monaco	2	N/A	None	No info	--	–	-	-	6	4	4	**166**	-	-	5	3	3	**168**
Mongolia	338	46	Moderate	No info	--	79	-	128	62	32	22	**84**	-	90	48	26	19	**85**
Montenegro	37	7	Moderate	No info	--	–	-	-	13	8	5	**159**	-	-	11	7	4	**160**
Morocco	3,421	1,203	Severe	Not prevalent	--	–	211	144	54	36	28	**73**	132	99	45	30	24	**72**
Mozambique	4,816	2,525	Severe	✓ = endemic	83	99	313	230	178	135	79	**23**	183	149	122	92	57	**20**
Myanmar	4,565	1,523	Severe	✓ = endemic	94	94	252	134	110	66	50	**44**	169	94	78	50	40	**43**
Namibia	338	43	Moderate	✓ = endemic	--	–	168	108	69	40	45	**52**	102	71	50	29	33	**57**
Nauru	1	0	Moderate	✓ = endemic	--	–	-	-	30	40	35	**65**	-	-	25	32	29	**64**
Nepal	2,807	1,171	Severe	✓ = endemic	93	85	292	193	86	50	36	**63**	195	130	64	41	29	**64**
Netherlands	885	N/A	None	No info	--	–	22	11	6	4	4	**166**	18	9	5	4	3	**168**
New Zealand	309	N/A	None	No info	--	–	26	16	8	6	6	**153**	22	13	6	5	5	**153**
Nicaragua	606	21	Mild	✓ = endemic	--	4	193	113	43	27	22	**84**	130	82	34	23	19	**85**
Niger	4,145	1,819	Severe	✓ = endemic	92	95	354	320	270	143	96	**10**	211	191	159	73	57	**20**
Nigeria	31,109	7,228	Severe	✓ = endemic	74	80	290	228	207	143	109	**7**	165	117	107	88	69	**8**
Niue	0	0	Moderate	✓ = endemic	--	–	-	-	-	22	23	**83**	-	-	-	19	20	**81**
Norway	315	N/A	None	No info	--	–	23	11	5	3	3	**182**	19	9	4	3	2	**186**
Oman	385	15	Mild	Not prevalent	--	–	280	95	15	9	12	**125**	164	73	12	8	10	**128**
Pakistan	24,664	2,377	Moderate	✓ = endemic	97	96	227	153	108	87	81	**22**	139	110	85	70	66	**12**
Palau	2	0	Mild	✓ = endemic	--	–	-	32	14	19	16	**104**	-	27	13	15	14	**101**
Panama	368	32	Mild	✓ = endemic	--	–	88	46	26	20	17	**99**	58	34	20	17	15	**97**
Papua New Guinea	996	100	Moderate	✓ = endemic	--	–	212	118	80	61	57	**38**	142	84	60	47	45	**33**
Paraguay	674	103	Moderate	✓ = endemic	--	–	94	61	27	25	21	**89**	68	46	23	21	18	**90**
Peru	3,020	419	Moderate	✓ = endemic	--	–	239	121	41	19	17	**99**	160	86	33	15	13	**108**
Philippines	11,255	4,422	Severe	✓ = endemic	86	83	110	81	40	29	28	**73**	69	50	30	23	22	**78**
Poland	1,994	164	Mild	No info	--	–	70	24	9	6	5	**159**	62	21	8	5	5	**153**
Portugal	439	N/A	None	No info	--	–	112	31	8	4	4	**166**	81	25	6	3	3	**168**
Qatar	132	N/A	None	Not prevalent	--	–	140	32	23	8	8	**142**	94	25	19	7	7	**140**
Republic of Korea	2,287	N/A	None	Not prevalent	--	–	127	18	5	5	3	**182**	90	16	5	4	3	**168**
Republic of Moldova	223	55	Severe	No info	--	–	-	51	24	19	16	**104**	-	41	21	16	14	**101**

Country (*Yellow highlight = Country with Moderate or Severe VAD)	Population under 5 (number of children) (000) (2015)	Estimated population w/ VAD (number of children) (000) (2009)	WHO VAD as a public health problem (122) 2009	Soil-transmitted helminthiasis (Ascariasis, trichuriasis, hookworm disease) Drug(s) used: **ALB** or **MBD**	VAS Coverage Rate (6-59 months) 2008 Full coverage (%)	VAS Coverage Rate (6-59 months) 2014 Full coverage (%)	Under 5 mortality rate					2015	Infant mortality rate (under 1)					2015
							1960	1980	2000	2010	2015	Rank	1960	1980	2000	2010	2015	Rank
Romania	924	173	Moderate	No info	--	–	82	36	22	14	11	**130**	69	29	19	11	10	**128**
Russian Federation	9,166	1,017	Moderate	No info	--	–	-	33	24	12	10	**133**	-	27	20	9	8	**136**
Rwanda	1,695	103	Mild	✓ = endemic	--	95	206	213	183	91	42	**56**	122	126	110	59	31	**60**
Saint Kitts and Nevis	5	0	Mild	✓ = endemic	--	–	-	-	25	8	11	**130**	-	-	21	7	8	**136**
Saint Lucia	14	2	Moderate	✓ = endemic	--	–	-	-	16	16	14	**112**	-	-	14	14	13	**108**
Saint Vincent and the Grenadines	9	0	Mild	✓ = endemic	--	–	-	-	23	21	18	**96**	-	-	19	19	17	**94**
Samoa	24	4	Moderate	✓ = endemic	--	–	131	74	34	20	18	**96**	92	56	28	17	15	**97**
San Marino	1	N/A	None	No info	--	–	-	-	6	2	3	**182**	-	-	6	2	3	**168**
Sao Tome and Principe	30	22	Severe	✓ = endemic	23	–	109	103	97	80	47	**49**	69	66	64	53	35	**50**
Saudi Arabia	3,161	104	Mild	Not prevalent	--	–	250	85	29	18	15	**110**	150	65	23	15	13	**108**
Senegal	2,601	707	Severe	✓ = endemic	90	89	311	213	133	75	47	**49**	124	94	66	50	42	**41**
Serbia	451	104	Moderate	No info	--	–	-	-	13	7	7	**148**	-	-	11	6	6	**147**
Seychelles	8	1	Mild	✓ = endemic	--	–	83	32	15	14	14	**112**	62	27	13	12	12	**116**
Sierra Leone	1,004	747	Severe	✓ = endemic	12	8	390	319	277	174	120	**5**	221	183	162	114	87	**3**
Singapore	269	N/A	None	Not prevalent	--	–	40	13	4	3	3	**182**	31	11	3	2	2	**186**
Slovakia	283	21	Mild	No info	--	–	40	23	10	8	7	**148**	33	20	8	7	6	**147**
Slovenia	111	N/A	None	No info	--	–	45	18	6	3	3	**182**	37	16	5	2	2	**186**
Solomon Islands	82	9	Moderate	✓ = endemic	--	–	-	-	88	27	28	**73**	-	-	65	23	24	**72**
Somalia	1,971	930	Severe	✓ = endemic	100	30	-	250	165	180	137	**3**	-	148	100	108	85	**4**
South Africa	5,370	890	Moderate	✓ = endemic	39	–	-	91	63	57	41	**58**	-	64	50	41	34	**53**
South Sudan (new 2012)	1,956					18				103	93	**13**				66	60	**18**
Spain	2,144	N/A	None	No info	--	–	57	16	6	5	4	**166**	46	13	4	4	4	**160**
Sri Lanka	1,643	524	Severe	✓ = endemic	--	72	133	48	19	17	10	**133**	83	36	16	14	8	**136**
State of Palestine	703	NS	NS	✓ = endemic	--	–	-	65	27	22	21	**89**	-	55	24	20	18	**90**
Sudan*	5,952	1,523	Severe	✓ = endemic	67	99	208	142	97	103	70	**27**	123	86	65	66	48	**30**
Suriname	48	8	Moderate	✓ = endemic	--	–	-	56	41	31	21	**89**	-	40	31	27	19	**85**
Swaziland	173	66	Severe	✓ = endemic	44	43	225	143	142	78	61	**36**	150	99	98	55	45	**33**
Sweden	590	N/A	None	No info	--	–	20	9	4	3	3	**182**	16	7	3	2	2	**186**
Switzerland	423	N/A	None	No info	--	–	27	11	6	5	4	**166**	22	9	5	4	3	**168**
Syrian Arab Republic	2,192	302	Moderate	Not prevalent	--	–	200	74	20	16	13	**120**	134	56	17	14	11	**121**
Tajikistan	1,176	230	Severe	No info	87	99	-	127	93	63	45	**52**	-	99	75	52	39	**44**
Thailand	3,799	708	Moderate	✓ = endemic	--	–	148	59	13	13	12	**125**	103	46	11	11	11	**121**
The former Yugoslav Republic of Macedonia	115	35	Severe	No info	--	–	177	70	16	12	6	**153**	120	52	14	10	5	**153**
Timor-Leste	204	87	Severe	✓ = endemic	--	–	-	-	107	55	53	**41**	-	-	85	46	45	**33**
Togo	1,160	366	Severe	✓ = endemic	64	–	264	177	124	103	78	**24**	156	100	78	66	52	**27**
Tonga	13	2	Moderate	✓ = endemic	--	–	65	39	26	16	17	**99**	50	32	22	13	14	**101**
Trinidad and Tobago	96	7	Mild	✓ = endemic	--	–	71	41	34	27	20	**94**	59	36	30	24	18	**90**
Tunisia	982	120	Moderate	Not prevalent	--	–	254	100	31	16	14	**112**	170	72	25	14	12	**116**
Turkey	6,821	824	Moderate	No info	--	–	219	133	44	18	14	**112**	163	103	38	14	12	**116**
Turkmenistan	528	137	Severe	No info	--	–	-	126	71	56	51	**42**	-	105	59	47	44	**33**
Tuvalu	1	0	Severe	✓ = endemic	--	–	-	67	43	33	27	**77**	-	51	35	27	23	**75**
Uganda	7,278	1,629	Severe	✓ = endemic	67	66	224	185	145	99	55	**40**	133	107	85	63	38	**45**
Ukraine	2,461	476	Severe	No info	--	–	-	30	23	13	9	**139**	-	25	19	11	8	**136**
United Arab Emirates	491	N/A	None	No info	--	–	222	33	10	7	7	**148**	149	27	9	6	6	**147**
United Kingdom	4,058	N/A	None	No info	--	–	27	14	6	5	4	**166**	23	12	6	5	4	**160**
Tanzania	9,398	1,683	Severe	✓ = endemic	93	88	241	175	141	76	49	**46**	142	106	88	50	35	**50**
United States	19,701	N/A	None	No info	--	–	30	15	9	8	7	**148**	26	13	7	7	6	**147**
Uruguay	241	30	Moderate	No info	--	–	61	42	16	11	10	**133**	51	37	14	9	9	**131**
Uzbekistan	3,195	1,519	Severe	No info	38	99	-	108	62	52	39	**59**	-	86	52	44	34	**53**
Vanuatu	35	5	Moderate	✓ = endemic	--	–	209	107	48	14	28	**73**	141	77	38	12	23	**75**
Venezuela	2,960	271	Mild	✓ = endemic	--	–	79	46	25	18	15	**110**	59	37	21	16	13	**108**
Viet Nam	7,741	972	Moderate	✓ = endemic	98w	94	112	66	30	23	22	**84**	70	44	23	19	17	**94**
Yemen	3,925	984	Severe	✓ = endemic	--	7	340	205	110	77	42	**56**	225	135	81	57	34	**53**
Zambia	2,851	1,089	Severe	✓ = endemic	96	–	213	155	182	111	64	**33**	126	90	102	69	43	**38**
Zimbabwe	2,505	610	Severe	✓ = endemic	20	32	158	108	105	80	71	**26**	96	70	68	51	47	**32**

*Due to the cession in July 2011 of the Republic of South Sudan from the Republic of the Sudan, and its subsequent admission to the United Nations on 14 July 2011, disaggregated data for the Sudan and South Sudan as separate States are not yet available for all indicators. Aggregated data presented are for the Sudan pre-cession (see Sudan and South Sudan).

Appendix A: VAS Priority Countries – page 5

SUMMARY INDICATORS	Population under 5 (number of children) (000) (2015)	Estimated population w/ VAD (number of children) (000) (2009)		VAS Coverage 2008	VAS Coverage 2014	Under 5 mortality rate						Infant mortality rate (under 1)				
						1960	1980	2000	2010	2015		1960	1980	2000	2010	2015
Sub-Saharan Africa	154,435	163,267		73	74	277	200	170	121	83		161	117	101	76	56
Eastern and Southern Africa	71,883	75,181		73	62	252	179	145	98	67		150	109	91	63	46
West and Central Africa	76,721	82,032		73	83	300	220	193	143	99		171	125	111	88	66
Middle East and North Africa	49,027	53,283		–	–	248	133	55	41	29		157	91	42	31	23
South Asia	167,989	173,210		65	62	238	163	96	67	53		157	111	70	52	42
East Asia and Pacific	151,917	146,650		89	86	-	74	40	24	18		-	53	32	19	15
Latin America and Caribbean	53,604	53,155		–	–	154	84	35	23	18		103	63	29	18	15
CEE/CIS	28,915	30,726		–	–	-	70	39	23	17		-	56	33	19	15
Least developed countries	132,093	139,575		85	67	276	207	154	110	73		168	128	98	71	51
World	656,996	668,970		71	69	184	115	80	57	43		120	77	55	40	32

Column	References
Population under 5 (number of children) (000) (2015)	State of the World's Children 2016:A fair chance for every child. UNICEF.
Estimated population w/ VAD (number of children) (000) (2009)	Global prevalence of vitamin A deficiency in populations at risk 1995–2005: WHO global database on vitamin A deficiency (2009).
WHO VAD as a public health problem (122) 2009	(122) countries are classified as having a moderate to severe public health problem based on biochemical VAD in preschool-age children. From Global prevalence of vitamin A deficiency in populations at risk 1995–2005: WHO global database on vitamin A deficiency. (2009).
Soil-transmitted helminthiasis (Ascariasis, trichuriasis, hookworm disease) Drug(s) used: **ALB** or **MBD**	WHO (2006)--Preventive chemotherapy in human helminthiasis: coordinated use of anthelminthic drugs in control interventions : a manual for health professionals and programme managers. Pages 6, 36-39.
VAS Coverage Rate (6-59 months) 2008 Full coverage (%)	Infant Feeding practices and micronutrient indicators, pp. 108-111; Tracking Progress on Child and Maternal Nutrition: A survival and development priority, UNICEF. Nov. 2009.
VAS Coverage Rate (6-59 months) 2014 Full coverage (%)	State of the World's Children 2016:A fair chance for every child. UNICEF.
Under 5 mortality rate	2015: State of the World's Children 2016:A fair chance for every child. UNICEF. 1960-2010: UNICEF, Childinfo.org
Infant mortality rate (under 1)	2015: State of the World's Children 2016:A fair chance for every child. UNICEF. 1960-2010: UNICEF, Childinfo.org

Countries/Territories Not listed above	STH Prevalence	WHO VAD as a public health problem 2009
Puerto Rico	✓ Endemic	No Information
Tokelau	✓ Endemic	No Information
American Samoa	✓ Endemic	No Information
French Polynesia	✓ Endemic	No Information
New Caledonia	✓ Endemic	No Information
Wallis and Futuna	✓ Endemic	No Information

Frequently Asked Questions (FAQs) about Vitamin A Supplementation (VAS)

1. What should I do if a child is crying?

Never force a child to take vitamin A, do not hold a child's nose to force them to swallow, and do not give it to a child who is crying. Make sure the child is calm to prevent choking. To calm a child, the caregiver may walk around until the child stops crying. If the child does not stop crying, instruct the caregiver to bring the child to the next distribution.

2. Can we give vitamin A supplements to caregivers (i.e., parents or guardians) to deliver to children at home?

Vitamin A used in universal distribution projects must be delivered by trained healthcare workers/volunteers, and capsules must not be given to caregivers to deliver at home. Never send vitamin A home with a caregiver to give to a child later.

See the Vitamin Angels Reference Manual for Administration of Vitamin A Supplements in Universal Distribution Projects (i.e., the VAS Reference Manual) for more information on how to treat sick children who arrive at a universal distribution event and will need additional medical treatment, including additional vitamin A supplementation (VAS).

In all circumstances, sick infants and children should be referred immediately to a health provider for further evaluation and treatment directly after dosing with vitamin A unless dosing is specifically contraindicated (i.e., a child is in respiratory distress). Instruct the caregiver to bring the child to the next distribution.

3. Can you give vitamin A to children 5 years of age and older if they are vitamin A deficient? Why not?

Research does not support universal distribution of vitamin A supplementation (VAS) to children 5 years of age and older. Although VAS would not harm children over 5, there is currently no documentation that the average child over 5 would receive any benefit from it. Caregivers (i.e., parents or guardians) who bring children age 5 years and older to distribution events should be educated on vitamin A rich foods and good nutrition practices. Vitamin Angels' VAS is intended to prevent vitamin A deficiency (VAD) in children under 5 years of age. In some very limited instances, if the grantee organization encounters a child over 5 years of age who has clinical signs of VAD (e.g., xerophthalmia), then, as outlined in Chapter 14 of the Vitamin Angels Reference Manual for Administration of Vitamin A Supplements in Universal Distribution Projects (i.e., the VAS Reference Manual), the decision of whether or not to treat the child with vitamin A should be made on a case-by-case basis as recommended by a healthcare professional.

4. Why does the eligibility criteria check that the child has not received vitamin A in the past 1 month, but the recommended dosing is every 4-6 months?

According to the WHO,[2] the minimum interval between doses of vitamin A is one month. The maximum interval between doses is 6 months. For example, if a child has not received vitamin A in 2 months, it is better to dose the child than to skip the dose and have the child wait 8 months (i.e. 2 months + 6 months) for the next dose. For more information, please see the Vitamin Angels Reference Manual for Administration of Vitamin A Supplements in Universal Distribution Projects (i.e. the VAS Reference Manual).

5. Can vitamin A supplementation be delivered to postpartum mothers?

Universal distribution of vitamin A supplementation (VAS) in postpartum women is NOT recommended as a public health intervention for the prevention of maternal and infant morbidity and mortality (strong recommendation by WHO). Postpartum women should continue to receive adequate nutrition.[1]

6. What if my government recommends vitamin A supplementation for children over 5 years of age, or for women postpartum?

Vitamin A supplementation (VAS) granted by Vitamin Angels is not intended for children over 5 years of age or for postpartum mothers, even if a government recommendation states otherwise. Vitamin Angels' VAS should be used for children 6-59 months of age only. In some very limited instances, Vitamin Angels may approve distribution of VAS to children over 5 years of age or postpartum women; however, before considering this, Vitamin Angels must be given a copy of the official government policy for VAS, including the policy to deliver VAS to these specific populations. Additionally, these groups would only be considered by Vitamin Angels if they are a minor part (less than 5%) of a larger project that focuses on universal distribution of VAS to infants/children 6 to 59 months of age.

7. What happens if I open a vitamin A bottle and do not use the capsules within 1 year, will they go bad or be dangerous to use?

If capsules remain unused 1 year after opening the bottle, they will deliver less vitamin A, but will not go bad or pose a danger if consumed. It is important to check your vitamin A stock before a distribution, and use those capsules from bottles that have already been opened and bottles with the shortest expiration date first, before using other vitamin A with a longer shelf life expectation.

8. Sometimes my distribution area gets very hot, what should I do about storage?

Vitamin A capsules are tested in conditions of high heat and high humidity, and are able to deliver the expected amount of vitamin A for a period of at least 3 years.

Adequate storage area for all vitamin A supplies should be available to ensure that vitamin A can be stored in a secure, dry cool place and away from direct sunlight; these conditions will help to keep the vitamin A at its highest potency. Even in hot distribution areas, vitamin A capsules can be protected by keeping them in their original bottles, with the lids tightly closed, and out of direct sunlight.

9. Can we store the vitamin A in the refrigerator?

We don't have any data to show that refrigeration harms the vitamin A. Refrigeration does make the capsules hard, so before using them the health worker will need to take them out of the cold storage well in advance to let them soften enough to squeeze. If the capsule is too hard, they are hard to cut and also too much vitamin A oil stays inside and the child does not get the full dose.

10. If a child gets side effects from vitamin A such as headache, nausea or vomiting – should the child receive a dose 6 months later?

WHO documents that the side effects are transient, and the child is fine to get their next age-appropriate does 6 months later.

11. If a child experiences some side effects after receiving vitamin A supplementation, will they experience side effects the next time they come for VAS?

There is a possibility that a child will experience side effects more than once, but there is no data showing that this will happen.

12. If a child is an orphan and/or did not breastfeed, do you advise we give them more vitamin A?

No; the WHO recommendations for vitamin A supplementation are based on a child's age, and it does not provide a recommendation based on breastfeeding status.

13. What does the vitamin A in capsule form taste like?

Vitamin A is in oil form, and has a light vanilla flavor.

14. Should we deliver vitamin A supplementation to adults?

Research does not support universal distribution of high-dose vitamin A supplementation (VAS) to adults as a preventive intervention, in general. Because of this, VA does not intend its products to be used for treatment; rather, they should be used for prevention. Explanations and exceptions to this regarding women are next.

- **Women up to 6 weeks after delivery:** Universal distribution of VAS in postpartum women is NOT recommended as a public health intervention for the prevention of maternal and infant morbidity and mortality (strong recommendation by WHO). Postpartum women should continue to receive adequate nutrition.
- **Pregnant women and women of child-bearing age:** Pregnant women or women of childbearing age who may be in the early stages of pregnancy with or without knowing it, should NOT be given high dose VAS (over 10,000 IU). A high dose of vitamin A early in pregnancy may damage the unborn child.
- **Treating women with eye conditions:** For treatment information see the Reference Manual for Administration of Vitamin A Supplements in Universal Distribution Projects (i.e., the VAS Reference Manual)

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1. WHO. Guideline: Vitamin A supplementation in postpartum women. World Health Organization, 2011.

2. WHO. Distribution of vitamin A during national immunization days: WHO/EPI/ GEN/98.06, 1998:9.

Frequently Asked Questions (FAQs) about Deworming

1. What should I do if a child is crying?

Never force a child to take vitamin A, do not hold a child's nose to force them to swallow, and do not give it to a child who is crying. Make sure the child is calm to prevent choking. To calm a child, the caregiver may walk around until the child stops crying. If the child does not stop crying, instruct the caregiver to bring the child to the next distribution.

2. Can we give deworming tablets to caregivers to deliver to the children at home?

Deworming used in universal distribution projects should be delivered by trained healthcare workers/volunteers, and tablets must not be given to caregivers to deliver at home. Never send deworming home with the caregiver to give to the child later.

3. Can we give a whole, uncrushed deworming tablet to a child to chew?

No! To decrease risk of choking, ALWAYS crush deworming tablets for ALL children under 5 years. You can crush deworming tablets using a glass bottle and a clean piece of paper, spoons, or a mortar and pestle.

4. How fine does the tablet need to be crushed?

The tablet needs to be crushed sufficiently, so a child who cannot chew can safely swallow the crushed pieces and powder without a risk of choking.

5. What do I do if a child starts to choke while taking deworming?

If a child begins to choke while taking deworming, please follow the instructions on the back of the VAS+D Visual Checklist and in the Deworming Reference Manual on "What to Do if a Child Chokes".

6. What do I do with the other half of the tablet when giving a half tablet of albendazole to children ages 12-24 months?

If using a half tablet, store the other half to use for another child.

7. Why is it recommended to give deworming only one to two times per year?

The WHO recommends that deworming (albendazole or mebendazole) be given once or twice per year to preschool-age children, depending on the prevalence of STH infections in a country. Most countries have a policy in place that is consistent with the WHO recommendations and fits nicely with the schedule for vitamin A supplementation.

8. Why does a fever prevent a child from getting deworming?

If a child has a fever, severe diarrhea, or is vomiting, it will not harm a child to receive deworming; however, it is recommended that children with these health concerns not be given deworming, as it may cause a negative response to future deworming if these symptoms continue in the child and then become associated with the deworming.

9. What is recommended if the child spits out the deworming?

If a child spits out the deworming, they should be told to come back in a month when they will be eligible to receive deworming again. Remember, it's important NEVER to force a child to take the deworming tablet. If a child is uncooperative, let the child pass without treatment; he or she will have another chance to be treated at the next round.

10. Should deworming be given with food and/or water?

After giving deworming to a child, you may give them water to drink, especially if the child seems to be experiencing difficulty swallowing. Giving water after every deworming is not necessary.

Always use clean drinking water in a clean cup. Make sure the child is sitting straight up and not tilting their head backwards.

Please visit our website at: **www.vitaminangels.org** for updates and more information about vitamin A and deworming for children under 5 years.

Job Aid
Visual Checklist for Giving Vitamin A and Deworming Together

Instructions: This visual checklist is a picture version of the performance checklist for Vitamin A Supplementation and Deworming (VAS+D). Each of the 39 steps in the performance checklist appear here in image form. The purpose of this visual checklist is to help you when you are delivering VAS+D and when you are coaching others to provide VAS+D, as approved by your organization.

As you practice and become skilled at providing VAS+D, you should use a ballpoint pen and make notes on this visual checklist to remind you of important points.

Here are the general steps for using the visual checklist when coaching others to provide VAS+D:

1. **Explain:** Use this visual checklist to explain each of the steps in VAS+D service delivery (using the performance checklist to provide more detailed information).
   - First, show and explain the three parts of the checklist.
   - Then, while everyone points to step 1, ask "What do you see in the picture?".
   - Next, have one person read the words for step 1 aloud. Take turns doing this for all 39 steps.
2. **Demonstrate:** Perform all 39 steps in VAS+D service delivery using this visual checklist.
3. **Coach:** Ask the service providers to use their copies of the visual checklist to practice giving VAS+D (usually in pairs) while you observe and provide feedback.
4. **Feedback:** Give each service provider feedback on steps they are doing well and steps that they need to practice more.

Supplies for VAS+D distribution:

- ☐ VAS+D visual checklists
- ☐ 100,000 IU blue vitamin A
- ☐ 200,000 IU red vitamin A
- ☐ Deworming tablets
- ☐ Alcohol-based hand sanitizer
- ☐ Clean scissors
- ☐ Serviettes/napkins
- ☐ Small, clean, white paper
- ☐ Glass bottle to crush tablet
- ☐ Plastic bag for trash
- ☐ Ballpoint pens
- ☐ Tally sheet
- ☐ Distribution register

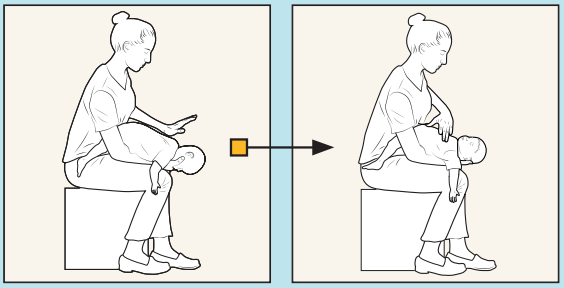
Have one or more copies of this visual checklist available when VAS+D services are being given. You and the other service providers can refer to the checklist as needed to help ensure that correct and safe services are being provided.

For more information on VAS+D service delivery including a copy of the performance checklist, a video on how to provide VAS+D, and other materials, go to the Vitamin Angels' website at **www.vitaminangels.org.**

What To Do if a Child Chokes

Staff administering tablets to small children should be trained in what to do if a child chokes. They should also have the authority and respect of the health post staff to act if necessary.

For Very Small Children

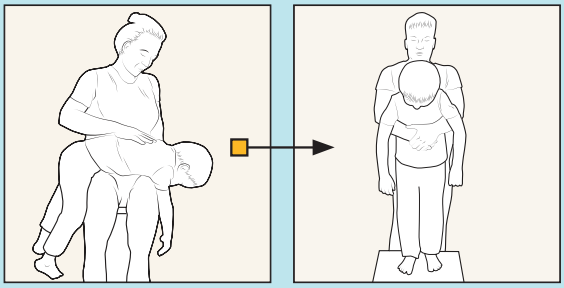


- Lay the child's chest on your thigh, then lean the child's head down.
- Thump on the middle part of the child's back 5 times using your palm.

If the problem is not resolved:

- Lay the child on your thigh facing upwards (child on its back).
- Press on the thoracic area of the child 5 times using your 2 fingers.
- Repeat if necessary.

For Older Children



- Lay the child on his/her abdomen on your thigh, then lean the child's head down.
- Thump on the middle part of the child's back 5 times using your palm.

If the problem is not resolved:

- Hold the child from behind in a standing position with your hands below the child's arms just below the rib cage.
- Press the child's body upwards.
- Repeat if necessary.

English - Oct. 2017

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Vitamin Angels gratefully acknowledges the adaptation of materials from UNICEF, WHO, the Micronutrient Initiative, and EngenderHealth for use in this checklist.

Name: _____

Part 1 Community Education

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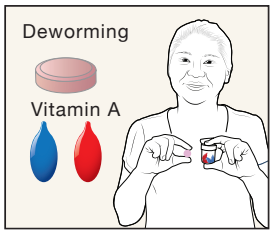
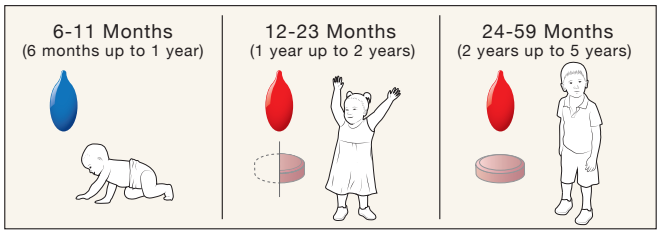
1 Welcome children and caregivers

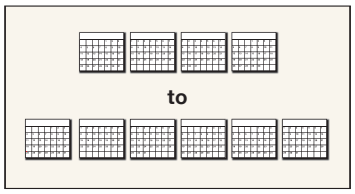


2 Vitamin A and deworming given today



3 Explain age to dose relationship

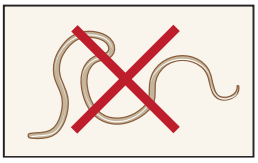
4 Give every 4 to 6 months



5 Benefits of vitamin A and deworming together:

Strong

Healthy eyes

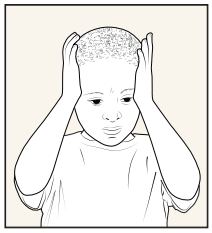


Free of worms for better nutrition

6 Side effects that may occur:

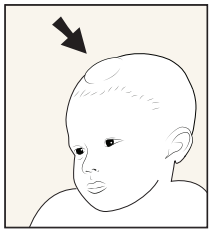
Nausea

Vomiting



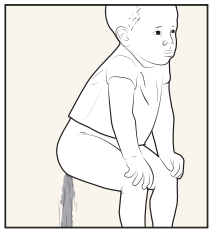
Headache

Loss of Appetite



Swelling of the Fontanel
(soft spot on head)

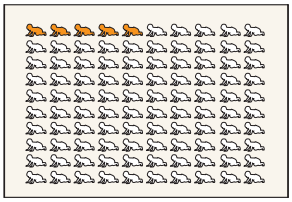
Mild Abdominal Pain



Diarrhea

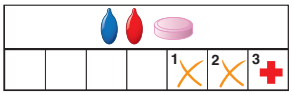
Fatigue

7 Rare side effects: only 5 out of 100 children

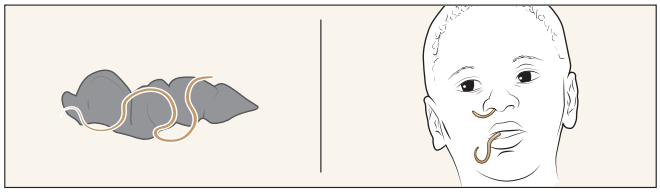


8 Side effects last a maximum of 2 days

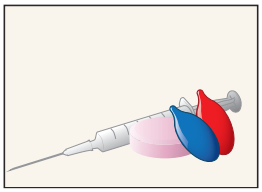
9 For symptoms beyond 2 days, or if other symptoms develop, get medical help



10 Other effects of deworming: Worms may be in the stool or in very rare cases exit nose or mouth – these can be pulled out or spit out

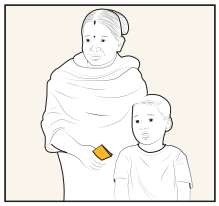


11 Very safe; even with vaccines



12 Ask for questions

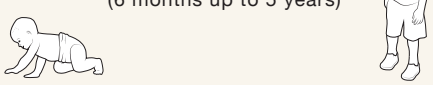
Part 2a Eligibility Criteria to Qualify



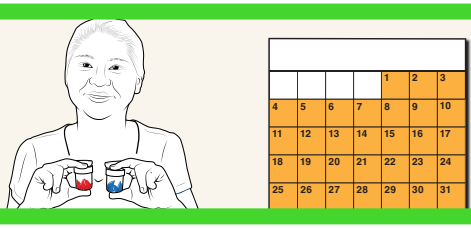
13 **Ask for child's name and health card – use to verify name, age, and last dose**

14 **Check for eligibility. Child is not eligible for a service unless they meet all criteria listed below that service.**
Never send vitamin A or deworming home with a caregiver to give to the child later

Qualify for Vitamin A



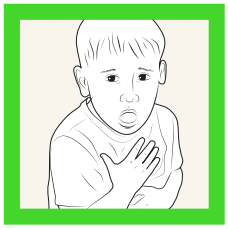
- ☑ **Ask: How old is your child?**
- ☑ **Check: Age is 6-59 months**



- ☑ **Show vitamin A capsules to caregiver**
- ☑ **Ask: When did child last receive vitamin A?**
- ☑ **Check: No vitamin A in past 1 month**

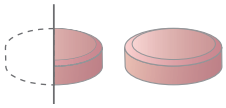
Ask caregiver if child has any of the following today.
If so, do not give service and refer child for medical help.

For vitamin A – OBSERVE and make sure there is NO:

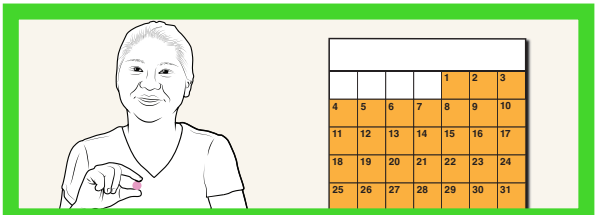


☑ Severe Difficulty Breathing Today

Qualify for Deworming



- ☑ **Ask: How old is your child?**
- ☑ **Check: Age is 12-59 months**



- ☑ **Show deworming tablets to caregiver**
- ☑ **Ask: When did child last receive deworming?**
- ☑ **Check: No deworming in past 1 month**

Ask caregiver if child has any of the following today.
If so, do not give service and refer child for medical help.

For deworming – OBSERVE and make sure there is NO:

- ☑ Severe Difficulty Breathing Today
- ☑ Vomiting Today
- ☑ Fever Today
- ☑ Severe Diarrhea Today

☐ = Critical steps for service providers

Part 2b

Giving Vitamin A

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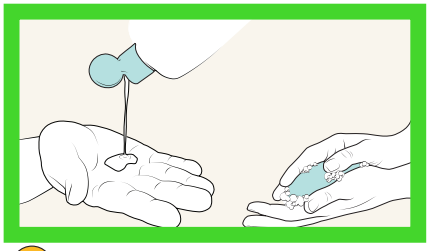
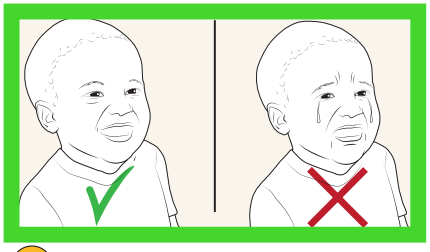
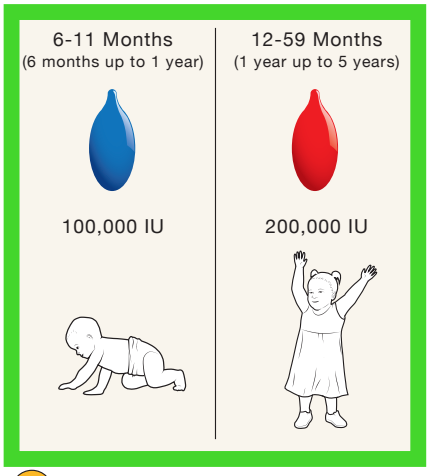


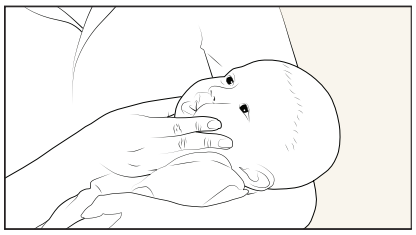
15 **Clean your hands**



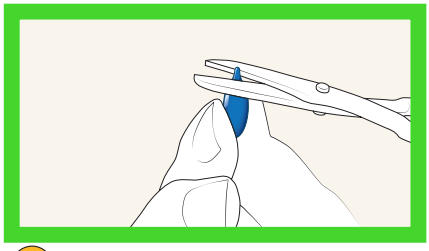
16 **To prevent choking, ask and make sure the child is calm. Never force a child to take vitamin A, do not hold a child's nose to force them to swallow, and do not give it to a child who is crying.**



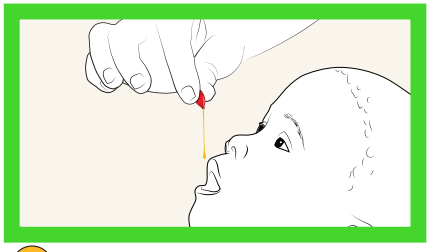
17 **Choose dose by age**



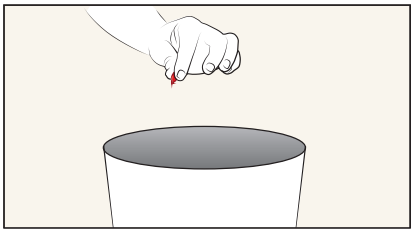
18 **Caregiver holds head and helps child open mouth**



19 **Cut off capsule tip**

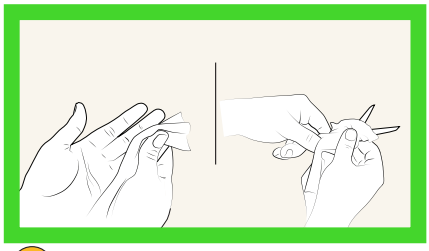


20 **Do not touch child; give vitamin A**



21 **Discard capsule in waste container**

22 **Ask if child has swallowed oil and is okay**

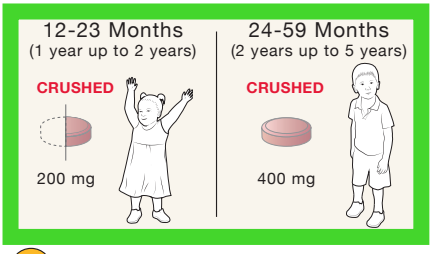


23 **Wipe oil off hands and scissors**

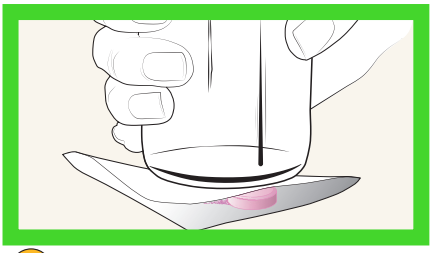
Part 2c

Giving Deworming

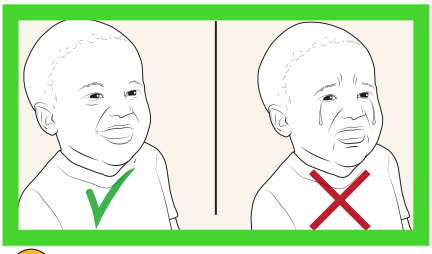
vitamin angels



24 **Choose dose by age. If using a half tablet, store the other half to use for another child.**

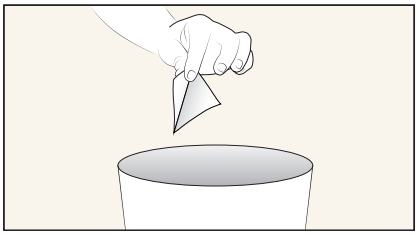


25 **Crush tablet into fine powder with a glass bottle. ALWAYS crush deworming tablets for ALL children under 5 years.**



26 **To prevent choking, ask and make sure the child is calm. Never force a child to take deworming, do not hold a child's nose to force them to swallow, and do not give it to a child who is crying.**

27 **Caregiver holds head and helps child open mouth. Do not touch child, use folded paper to slowly pour powder into child's mouth.**

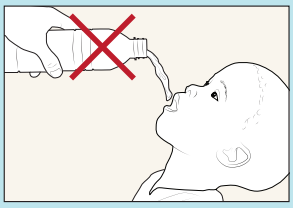


28 **Discard paper in waste container**

29 **Ask if child chewed and is okay**

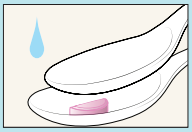
OPTIONAL: After giving deworming to a child, you may give them water to drink, especially if the child seems to be experiencing difficulty swallowing. Giving water after every deworming is not necessary. Always use clean drinking water in a clean cup. Make sure the child is sitting straight up and not tilting their head backwards.

a **If a child is experiencing difficulty swallowing, you may give the child a cup with clean drinking water.**



b **Never force a child to drink water and do not pour water into a child's mouth.**

Alternate Crushing Methods

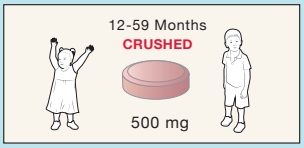


Crush with spoons

or

Crush with mortar and pestle

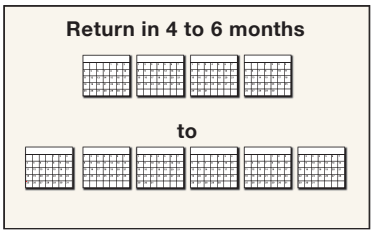
If giving Mebendazole substitute this step for step 24 above



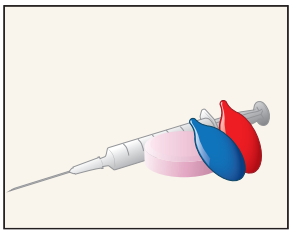
24 **Same dose for ALL children under 5 years**

Part 3 Recordkeeping and Exit Counseling

30 Record doses given on register and health card



31 Write return date for child and tell caregiver when to return

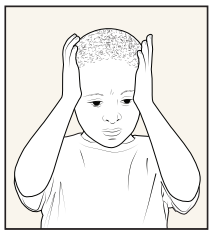


32 Very safe; even with vaccines

33 Side effects that may occur:

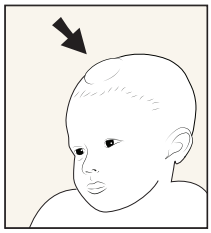
Nausea

Vomiting



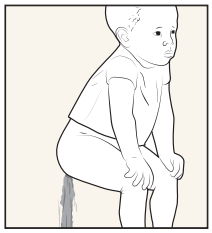
Headache

Loss of Appetite



Swelling of the Fontanel
(soft spot on head)

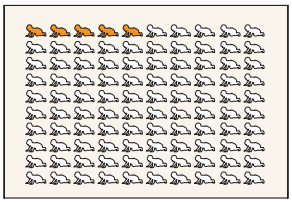
Mild Abdominal Pain



Diarrhea

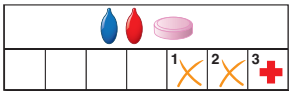
Fatigue

34 Rare side effects: only 5 out of 100 children

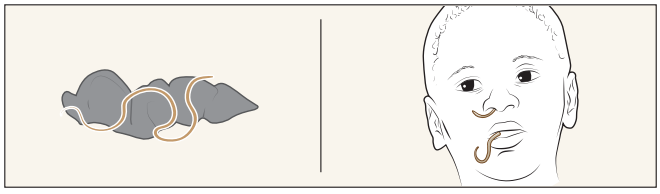


35 Side effects last a maximum of 2 days

36 For symptoms beyond 2 days, or if other symptoms develop, get medical help



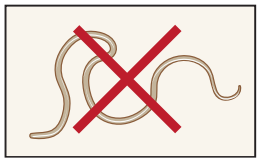
37 Other effects of deworming: Worms may be in the stool or in very rare cases exit nose or mouth – these can be pulled out or spit out



38 Benefits of vitamin A and deworming together:

Strong

Healthy Eyes



Free of worms for better nutrition

39 Ask for questions

How to Give Vitamin A to Children 6-59 Months

In countries experiencing vitamin A deficiency, providing supplemental nutrition in the form of a vitamin A capsule every 4 to 6 months is vital for good infant and child health, growth, and development; this is accepted as an essential part of child survival programs. One capsule of vitamin A given two times a year to children 6 to 59 months of age can reduce mortality by 24%.

Vitamin A supplementation can help to protect infant and child health because it:

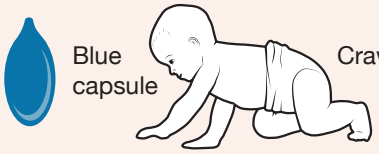
- Increases child survival
- Supports a healthy immune system
- Reduces new cases or incidences of diarrhea and measles
- Protects eyes and eyesight and prevents anemia
- Promotes physical growth

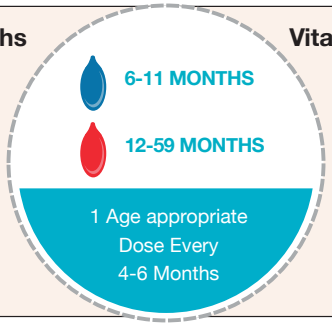
Recommendations:

- During the first six months of life, infants should be exclusively breastfed.
- Children 6 months and older should eat a nutritious diet that includes a variety of brightly colored fruits and vegetables, animal products such as dairy and meat, nuts, oils, and legumes.
- Infants 6 to 11 months of age should receive one 100,000 IU dose of vitamin A.
- Children 12 to 59 months of age should receive one 200,000 IU dose of vitamin A two times each year.
- Infants and children who have received vitamin A supplementation within the past 1 month (4 weeks) will not get any additional benefits from a second dose of vitamin A given in the same month, and it should not be given.

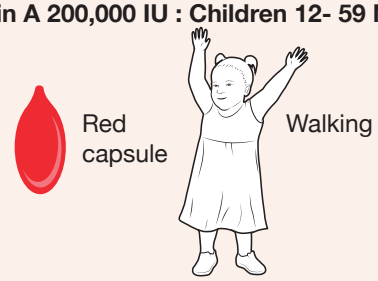
Giving Vitamin A to Children 6-59 Months

Vitamin A 100,000 IU : Infants 6 -11 Months





Vitamin A 200,000 IU : Children 12- 59 Months



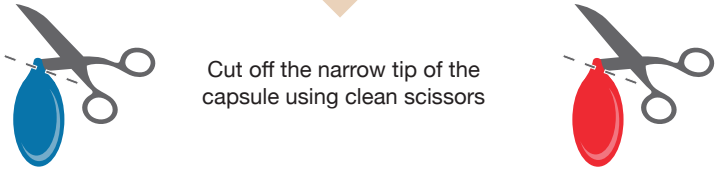
Infection Prevention

To minimize the spread of infection from one child to another, always ensure that hands are clean when giving vitamin A to infants and children.

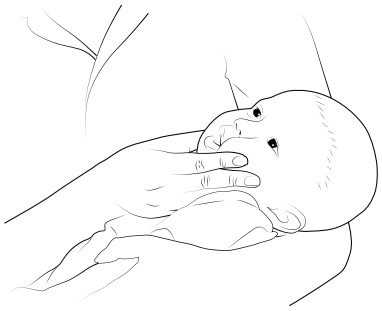
Healthcare provider's hands are cleaned using an alcohol-based hand sanitizer **or** soap and clean water

Capsule Cutting

With the capsule's narrow tip pointing up, use clean scissors to cut off the tip of the capsule.

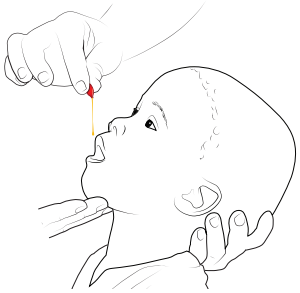


Cut off the narrow tip of the capsule using clean scissors



While the caregiver supports the child's head and ensures that their mouth is open, squeeze vitamin A oil into the child's mouth without touching the child.

Never force a child to take vitamin A, do not hold a child's nose to force them to swallow, and do not give it to a child who is crying.



- Except if the child has a respiratory infection and is unable to breathe, there are no conditions or illnesses that prevent a child age 6 – 59 months from being given VAS. If a child is suffering from respiratory distress, they should be referred for immediate medical attention.
- Never send vitamin A home with a caregiver to give to the child later.
- Infants and children who have received vitamin A supplementation within the past 1 month (4 weeks) will not get any additional benefits from a second dose of vitamin A given in the same month, and it should not be given.

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Guide for Vitamin A Supplementation (VAS) Distribution Supervisors

Healthcare Provider Training

Before providing vitamin A to infants and children, all healthcare providers should be trained. Distribution supervisors should train all workers involved in vitamin A supplementation (VAS) delivery using the steps and sequence provided below, to ensure health service standardization.

Vitamin A Introduction and Entrance Counseling

- Caregiver and child are greeted/welcomed by health worker
- Information is communicated about VAS, including recommended dosing schedule and how VAS will be administered
- VAS safety, side effects, and appropriate responses are communicated
- Caregiver questions on VAS are requested and answered accurately

Vitamin A Eligibility Screening

- Child's name is requested and received
- VAS eligibility is determined using the 3 criteria (age, respiratory health, and VAS history) and responded to appropriately
- Age-appropriate dose is selected and communicated to the caregiver
- Never send vitamin A home with a caregiver to give to the child later

Infection Prevention

- Hands are washed or sanitized periodically, including before and after giving vitamin A to a sick child

Vitamin A Dosing

- Never force a child to take vitamin A, do not hold a child's nose to force them to swallow, and do not give it to a child who is crying.
- Caregiver is asked to support the child's head and ensure that their mouth is open
- Clean scissors are used to cut off the narrow tip of the vitamin A capsule
- Without touching the child, healthcare provider squeezes all liquid vitamin A into the child's mouth
- Healthcare provider has checked that the child has swallowed the vitamin A dose and is comfortable
- Vitamin A capsule is disposed of in a plastic bag and oil is removed from hands and scissors

Recordkeeping

- Age-appropriate vitamin A dose given to the child is recorded on child health card, tally sheet and/or distribution register

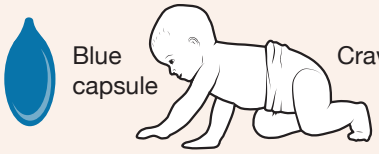
Exit Counseling

- VAS side effects and appropriate responses are communicated to the caregiver
- Caregiver questions on VAS are requested and answered accurately
- Information about upcoming VAS events, including next dosing date, is shared with caregiver
- Caregiver and child are thanked for their attendance

See Vitamin Angels' Visual Checklist (Job Aid) for more detailed step-by-step instructions.

Giving Vitamin A to Children 6-59 Months

Vitamin A 100,000 IU : Infants 6 -11 Months

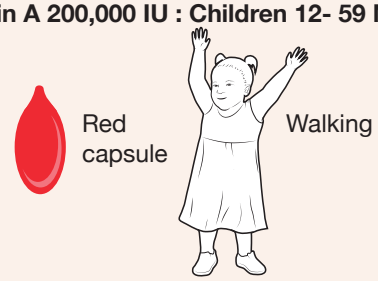


6-11 MONTHS

12-59 MONTHS

1 Age appropriate Dose Every 4-6 Months

Vitamin A 200,000 IU : Children 12- 59 Months



Infection Prevention

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Capsule Cutting

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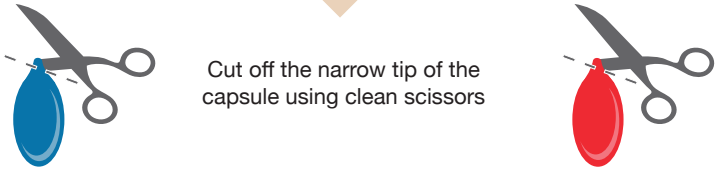
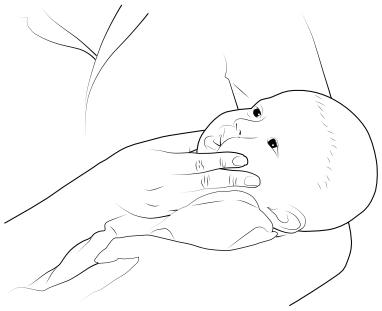
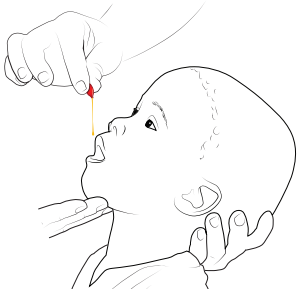


Cut off the narrow tip of the capsule using clean scissors



While the caregiver supports the child's head and ensures that their mouth is open, squeeze vitamin A oil into the child's mouth without touching the child.

Never force a child to take vitamin A, do not hold a child's nose to force them to swallow, and do not give it to a child who is crying.



- Except if the child has a respiratory infection and is unable to breathe, there are no conditions or illnesses that prevent a child age 6 – 59 months from being given VAS. If a child is suffering from respiratory distress, they should be referred for immediate medical attention.
- Never send vitamin A home with a caregiver to give to the child later.
- Infants and children who have received vitamin A supplementation within the past 1 month (4 weeks) will not get any additional benefits from a second dose of vitamin A given in the same month, and it should not be given.

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How to Give Deworming to Children 12-59 Months as Part of Universal Distribution of Vitamin A

Many countries with vitamin A deficiency are also endemic with soil-transmitted helminths (STH) or "intestinal worms"--this contributes to child undernutrition. Providing deworming to children together with vitamin A is a simple, effective way to improve a child's vitamin A status and overall health.

Deworming through mass drug administration (MDA) can help:

- Prevent or eliminate intestinal worms that rob the body of essential nutrients

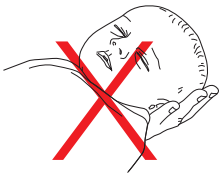
Recommendations:

- ALWAYS crush deworming tablets for ALL children under 5 years
- Never send deworming home with a caregiver to give to the child later
- OPTIONAL: After giving deworming to a child, you may give them water to drink, especially if the child seems to be experiencing difficulty swallowing. Giving water after every deworming is not necessary. Always use clean drinking water in a clean cup. Make sure the child is sitting straight up and not tilting their head backwards.
- If mebendazole is used, provide clean drinking water for children

Deworming Dosing Instructions

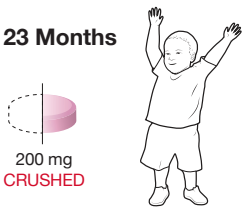
Albendazole (400 mg)

Infants younger than 1 year (0-11 months)



Do not give to infants younger than 1 year (0-11 months) of age

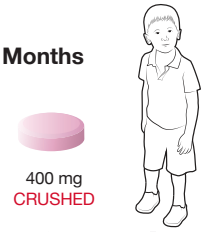
12 - 23 Months



200 mg
CRUSHED

Give children ages 1 year up to 2 years (12-23 months) a half tablet of albendazole - store the other half to use for another child.

24 - 59 Months

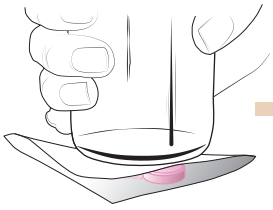


400 mg
CRUSHED

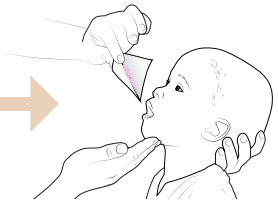
Give children ages 2 years up to 5 years (24-59 months) a whole tablet of albendazole.

How often

Give to children 1 year up to 5 years (12-59 months) of age. It is safe and effective to give deworming in combination with vitamin A every 4-6 months.



Place albendazole tablet inside a folded piece of paper, then crush with a glass bottle.



Use folded piece of paper to slowly pour the crushed tablet into the child's mouth. Never force a child to take deworming, do not hold a child's nose to force them to swallow, and do not give it to a child who is crying.

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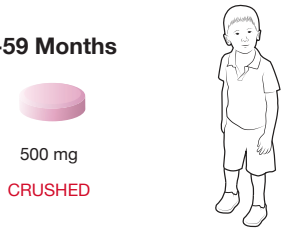
Deworming Dosing Instructions

Mebendazole (500 mg)

Infants younger than 1 year (0-11 months)

Do not give to infants younger than 1 year (0-11 months) of age.

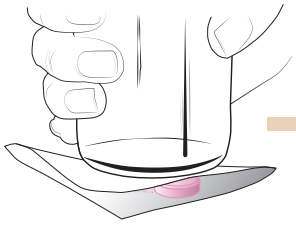
12-59 Months



500 mg

CRUSHED

Give children ages 1 year to 5 years (12-59 months) a whole tablet of mebendazole.



Place mebendazole tablet inside a folded piece of paper, then crush with a glass bottle.

Use folded piece of paper to slowly pour the crushed tablet into the child's mouth. Never force a child to take deworming, do not hold a child's nose to force them to swallow, and do not give it to a child who is crying.

How often

Give to children 1 year up to 5 years (12-59 months) of age. It is safe and effective to give deworming in combination with vitamin A every 4-6 months.

Use of Vitamin Angels' Deworming Tablets:

Vitamin Angels provides donations of deworming tablets to be used only for children ages 12-59 months. WHO and UNICEF recommend that deworming be given together with vitamin A 200,000 IU supplementation.

Storage:

Store in a **COOL, DRY** place. Keep bottle tightly closed.

Never send deworming home with a caregiver to give it to the child later.

WARNING: This product should be administered by trained healthcare providers. Do not take this product without direct supervision by qualified healthcare personnel.

STORE THIS PRODUCT OUT OF REACH OF CHILDREN.

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Daily Tally Sheet: Vitamin A and Albendazole

DATE: _____

REGION/PROVINCE: _____

DISTRICT: _____

HEALTH CENTER: _____

INSTRUCTIONS

USE A SEPERATE TALLY SHEET EVERY DAY

EXAMPLE OF TALLY RECORD: 𝍸 III

Vitamin A Supplementation		Deworming	
Infants 6 – 11 Months	Children 12 – 59 Months	Children 12 – 23 Months	Children 24 – 59 Months
100,000 IU (blue capsule)	200,000 IU (red capsule)	200 mg, 1/2 tablet	400 mg, 1 tablet

Distribution Summary

Total Vitamin A Supplementation			Total Deworming		
# of Children 6 – 11 Months	# of Children 12 – 59 Months	***Total Children***	# of Children 12 – 23 Months	# of Children 24 – 59 Months	***Total Children***

Supply	Total # Doses Received at Site	Total # Doses Given to All Children	Total # Doses Lost (Not given, not in inventory)	Stock Remaining (received - used - lost)	Remarks
Vitamin A Capsules 100,000 IU					
Vitamin A Capsules 200,000 IU					
Whole Deworming Tablets, 400 mg					

Adverse Effects	Action Taken	Outcome

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Distribution Register: Vitamin A Supplementation and Deworming for Children 6-59 Months

DATE: _____

REGION/PROVINCE _____

DISTRICT _____

HEALTH CENTER: _____

NAME OF RECORDKEEPER: _____

Vitamin A Supplementation (VAS) and Deworming for Children Ages 6-59 Months

Name of Child	Birthdate	6-11 months	12-17 months		18-23 months		24-29 months		30-35 months		36-41 months		42-47 months		48-53 months		54-59 months	
		Vitamin A 100,000 IU	Vitamin A 200,000 IU (200K)	Deworming 1/2 tablet	Vitamin A 200K	Deworming 1/2 tablet	Vitamin A 200K	Deworming whole tablet	Vitamin A 200K	Deworming whole tablet	Vitamin A 200K	Deworming whole tablet	Vitamin A 200K	Deworming whole tablet	Vitamin A 200K	Deworming whole tablet	Vitamin A 200K	Deworming whole tablet
Sample Child #1	*14/7/2006*	*Jan-07*	*Jul-07*	*Jul-07*	*Jan-08*	*Jan-08*	*Jul-08*	*Jul-08*	*Jan-09*	*Jan-09*	*Jul-09*	*Jul-09*	*Jan-10*	*Jan-10*	*Jul-10*	*Jan-10*	*Jan-11*	*Jan-10*
Sample Child #2	*3/8/2006*	*Mar-07*	*Sep-07*	*Sep-07*	*Mar-08*	*Mar-08*	*Sep-08*	*Sep-08*	*Mar-09*	*Mar-09*	*Sep-09*	*Sep-09*	*Mar-10*	*Mar-10*	*Sep-10*	*Sep-10*	*Mar-11*	*Mar-11*
Sample Child #3	*27/7/2007*	*May-08*	*Nov-08*	*Nov-08*	*May-09*	*May-09*	*Nov-09*	*Nov-09*	*May-10*	*May-10*	*Oct-10*	*Oct-10*	*May-11*	*May-11*	*Nov-11*	*Nov-11*	*Nov-12*	*Nov-12*

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Sample Child Health Card

Sample Child Health/Immunization Card, Including Vitamin A and Albendazole			
Child/Family Information			
Name of Child *(family, given)*			
Sex/Gender *(mark one)*	Female ☐	Male ☐	
Birthdate of Child	Day:	Month:	Year:
Name of Mother *(family, given)*			
Name of Father *(family, given)*			
Address of Residence			

Age of Child	Vitamin A Date Distributed *(dd/mm/yy)*	Albendazole 400mg Date Distributed *(dd/mm/yy)*	Next Distribution Date *(dd/mm/yy)*
0-5 Months	DO NOT GIVE	DO NOT GIVE	
6-11 Months	100,000 IU:	DO NOT GIVE	
12-17 Months	200,000 IU:	1/2 Tablet:	
18-23 Months	200,000 IU:	1/2 Tablet:	
24-29 Months	200,000 IU:	1 Tablet:	
30-35 Months	200,000 IU:	1 Tablet:	
36-41 Months	200,000 IU:	1 Tablet:	
42-47 Months	200,000 IU:	1 Tablet:	
48-53 Months	200,000 IU:	1 Tablet:	
54-59 Months	200,000 IU:	1 Tablet:	

Vaccine	Date Distributed *(dd/mm/yy)*	Next Distribution Date *(dd/mm/yy)*
BCG		
DTP1		
DTP2		
DTP3		
OPV0		
OPV1		
OPV2		
OPV3		
MEASLES		
HepB0		
HepB1		
HepB2		
HepB3		

Other Services Provided	Date Distributed *(dd/mm/yy)*	Next Distribution Date *(dd/mm/yy)*
Insecticide Treated Bed Net		

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2. Pan American Health Organization. Providing vitamin A supplements through immunization and other health contacts for children 6–59 months and women up to 6 weeks postpartum: A guide for health workers, 2nd edition, 2001:34.
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2. UNICEF. Vitamin A global initiative: A strategy for acceleration of progress in combating vitamin A deficiency. Consensus of an informal technical consultation convened by UNICEF, in association with The Micronutrient Initiative, WHO, CIDA, and USAID. December 1997.
3. WHO. Guideline: Vitamin A supplementation in infants and children 6–59 months of age. Geneva: World Health Organization, 2011.

4 WHO (2009). Global prevalence of vitamin A deficiency in populations at risk 1995–2005: WHO global database on vitamin A deficiency.

5 WHO/UNICEF/IVACG Task Force. Vitamin A supplements: A guide to their use in the treatment and prevention of vitamin A deficiency and xerophthalmia, 2nd edition. 1997:14.

Chapter 4

1. MOST/USAID. Twice-yearly vitamin A supplementation: A guide for programme managers, 2001:11.
2. WHO (1998). Distribution of vitamin A during national immunization days: A generic addendum to the Field guide for supplementary activities aimed at achieving polio eradication, 1996 revision.
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Chapter 5

1. Micronutrient Initiative. Vitamin A in child health weeks: A toolkit for planning, implementing, and monitoring, 2007: 47, 49.
2. MOST/USAID. Twice-yearly vitamin A supplementation: A guide for programme managers, 2001:14.
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