Remove Standing Water



Families and community organizations.

- WHAT -

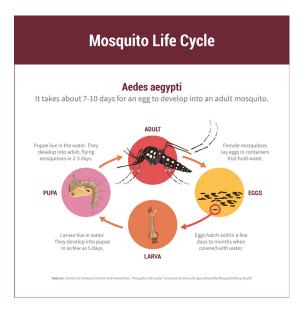
Regularly remove standing water not intended for storage around the home and in communal areas.

— WHY —

Eliminating standing water, where mosquitos lay their eggs, significantly reduces the adult mosquito population.

KEY FACTS

- The *Aedes aegypti* mosquito lives in and around people's homes and does not travel far in its lifespan. If there is a mosquito in the home, it is very likely several breeding sites are in the yard.
- The most favorable places for mosquito breeding are containers with walls exposed to rainwater, especially under shade and where organic matter accumulates (for example, decaying leaves, algae).
- The elimination of standing water can reduce the adult mosquito population by up to 70 percent if done at least once a week in the same areas.
- Breeding sites must be eliminated weekly by removing standing water because new eggs will develop into adult mosquitos in seven to 10 days.



HOW TO REMOVE STANDING WATER

AROUND THE HOME

- Dedicate 15 minutes each week to identify and eliminate mosquito breeding sites in and around the yard of the house.
- Know that the *Aedes aegypti* mosquito prefers areas where the sun does not bother them and where leaves decaying in water provide food for the larvae (worms).
- Be aware that mosquitoes breed in diverse containers and seek hard-to-access locations such as roofs and gutters.
- Identify all possible objects that are exposed to rain or can accumulate water, inside and outside the house, including:
 - Tires
 - Tree trunks
 - Gutters on roofs
 - Pots, planters, and their dishes/bases
 - Empty plastic or glass bottles
 - Toys
 - Buckets/cubes
 - Unusable objects
 - Drinking dishes/troughs for animals
 - Empty cans
 - Bromeliads
 - Vases
 - Permanent or fixed objects such as: pilas, fountains, pools
- At least once a week, empty these objects and turn them over, cover them, puncture them, or throw them away.
- Empty and clean gutters on roofs once a week as well.

IN THE COMMUNITY

- Map the breeding sites in the community under the leadership of community authorities.
 - Use community maps to focus the search on areas where stagnant water or rainwater tend to accumulate.
 - Focus the search at schools, health posts, cemeteries, construction sites, empty lots, and community centers, which have many empty objects that can become reservoirs for stagnant water.
 - Remember that the *Aedes aegypti* mosquito prefers shaded areas where water and organic matter accumulate.
- At each possible breeding site, use a white plastic container to obtain and inspect water to see whether it contains larvae.
- Once breeding sites have been identified, empty, turn over, cover, puncture or throw away any container that accumulates water.

TIPS FOR PROMOTING THIS BEHAVIOR

AROUND THE HOME

- When conducting home visits, accompany family members through the house and yard to identify potential breeding sites together and explain how to search, identify, and eliminate *Aedes aegypti* larvae in water.
- Promote understanding of the life cycle and behavior of the *Aedes aegypti* mosquito for an active and efficient search for eggs and larvae.
- Promote an attitude of "family detectives" and encourage families to spend 15 minutes each week identifying and eliminating standing water (not intended for storage) that could become mosquito breeding sites.
- Promote constant vigilance and proactive searching of mosquito breeding sites, which may vary from week to week.
- Remind families that breeding sites include roofs and gutters, especially if the flow of rainwater is obstructed or very slow.

IN THE COMMUNITY

- Motivate and mobilize community leaders and members to participate in organized efforts to remove standing water in communal areas that could become mosquito breeding sites.
- Avoid general community clean-ups because these activities dilute efforts and are less effective in eliminating mosquito breeding sites.
- Gain pledges and weekly commitments from community leaders and members.
- Organize a weekly search-and-eliminate brigade.
- At community assemblies, stress the importance of these efforts for stopping Congenital Zika Syndrome, and recognize community members for their work and the positive results they have achieved.
- Encourage community members to share what they have learned about eliminating standing water with their family, friends, and neighbors, to increase everyone's commitment.

• Eliminate mosquito breeding sites weekly.

SUPPORTING EVIDENCE

- Alvarado-Castro V. et al., 2017. "Assessing the effects of interventions for *Aedes aegypti* control: Systematic review and meta-analysis of cluster randomised controlled trials," *BioMed central public health* 17(1).
- Audraud M. 2013. "A simple periodic-forced model for dengue fitted to incidence data in Singapore," *Mathematical biosciences* 244(1):22-4.
- Dom N.C. et al., 2013. "Assessing the risk of dengue fever based on the epidemiological, environmental and entomological variables," *Social and behavioral sciences* 105:183-94.
- Garcia-Betancourt T. et al., 2015. "Understanding water storage practices of urban residents of an endemic dengue area in Colombia: Perceptions, rationale and socio-

demographic characteristics," PLoS 10(6):e0129054.

- Phuanukoonnon S., I. Mueller, and J. H. Bryan. 2005.
 "Effectiveness of dengue control practices in household water containers in Northeast Thailand," *Tropical medicine* & international health 10(8):755-63.
- Quintero J. et al., 2014. "Ecological, biological and social dimensions of dengue vector breeding in five urban settings of Latin America: *A multi-country study,*" *BioMed central infectious diseases* 14(1):38.
- Tran H.P. et al., 2012. "Low entomological impact of new water supply infrastructure in Southern Vietnam, with reference to dengue vectors," *American journal of tropical medicine and hygiene* 87(4):631-9. UNICEF. 2016. "Risk communication and community engagement for Zika virus prevention and control," www.unicef.org/cbsc/files/Zika_Virus_Prevention_and_Control_UNICEF_English.pdf.

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