

flow meter zones and the child's asthma medications may be obtained from the child's primary care provider. A home asthma action plan may reduce the risk of asthma death by 70% (Liu, Covar, Spahn, et al, 2016). Medications used for asthma exacerbations are also included in the asthma plan. This action plan should be used to make decisions about asthma management at home and at school. The nurse may assist the child and family in understanding the written action plan, emphasizing that the child and family determine the success of the plan, not the health professionals. Teach parents how to read labels on prepared foods and snacks to determine the presence of allergens.

The child should be protected from a respiratory tract infection that can trigger an attack or aggravate the asthmatic state, especially in young children whose airways are mechanically smaller and more reactive. Annual influenza vaccinations are recommended for all children older than 6 months old. Pneumococcal vaccines should also be maintained. Equipment used for the child, such as nebulizers, must be kept absolutely clean to decrease the chances of contamination with bacteria and fungi.

Teach breathing exercises and controlled breathing for motivated children, and the nurse should provide information concerning activities that promote diaphragmatic breathing, side expansion, and improved mobility of the chest wall. Play techniques that can be used for younger children to extend their expiratory time and increase expiratory pressure include blowing cotton balls or a ping-pong ball on a table, blowing a pinwheel, blowing bubbles, or preventing a tissue from falling by blowing it against the wall.

Self-care and asthma self-management programs are important in helping the child and family cope with asthma. Self-contained programs and brochures for patient education are available from the Asthma and Allergy Foundation of America* and the American Lung Association.† The National Heart, Lung, and Blood Institute‡ provides fact sheets and educational materials for asthma education in the school setting. Practice parameters and guidelines designed for health care practitioners are available from the American Academy of Allergy Asthma and Immunology website.§

Support Child or Adolescent and Family

The nurse working with children with asthma can provide support