This paper offers practical suggestions to educators working with the increasing numbers of students who are technologically dependent and/or medically fragile. Suggestions address the following areas: (1) management of the physical environment and specialized equipment (e.g., maximizing accessibility, equipment in the classroom, classroom arrangement, and field trips); (2) staff concerns (staff orientation, specific care training, instructional modifications, and specialist involvement); and (3) student/family needs (assistance in developing positive peer relationships; adaptation of behavioral management techniques; and establishment of a mechanism for providing emotional support to the family, school health caretakers, and educational staff). (DB)
HELP! IS THIS AN INTENSIVE CARE UNIT OR A CLASSROOM?

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ABSTRACT

HELP! IS THIS AN INTENSIVE CARE UNIT OR A CLASSROOM?

The number of students entering the schools, who are technology dependent and/or medically fragile is increasing daily. Classroom teachers and school personnel are faced with demands to develop different and more comprehensive services. Guidelines are discussed which are intended to provide educators with specific maintenance information and transition tips to be considered when introducing the student who is technology dependent or medically fragile into the classroom and school.
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Medical technology has increased the survival rate of many infants who previously would not have lived past the newborn period. These infants are discharged from the hospitals with ongoing medical needs. They may require specialized care and equipment to survive, grow, and learn. The medically fragile child is limited in strength, vitality, and alertness due to chronic, acute health problems (Hallahan & Kauffman, 1991). The technology dependent child "requires the routine use of a medical device to compensate for the loss of a life-sustaining body function and requires daily and ongoing care and/or monitoring by trained personnel" (Office of Technology Assessment, 1987, p. xi:1). These infants are now becoming participants in infant, toddler, preschool, and elementary programs.

The Family Support Bulletin of the United Cerebral Palsy Association (Winter, 1988) indicated there were at least 17,000 technology dependent students in the United States and the number was rising. While the hospital staff provides parents with the necessary training for care of their child, intervention and/or school programs are seldom adequately prepared. Teachers see the traditional classroom and their respective roles changing into a hospital ward. Inservice training related to working with students who are technology dependent and/or medically fragile in the classroom is needed for school personnel.

Schools are mandated by the Education for All Handicapped Act of 1975 and its successors to educate all children. But with this new population of students who are technology dependent and/or medically fragile, there are demands to develop different and more comprehensive services. Areas of concern seem to fall into three categories: management of the physical
environment, addressing staff concerns, and acknowledging student/family needs. Some of the specific issues for teachers and related service staff are: how to meet the educational needs of these children, determination of the educator's role regarding medical care, and addressing family concerns. The guidelines suggested below, from the authors' personal experiences, are intended to facilitate a more successful transition of the child who is technology dependent and/or medically fragile to an educational program.

**Management of the physical environment and specialized equipment.** Schools must be evaluated in terms of accessibility to a child in a wheelchair. Ramps, walkways, handrails, water fountains, and doorways must be appropriate height or dimensions. The school physical or occupational therapist can serve as a consultant on these matters. Classrooms where students who are technology dependent will be placed need one to two electrical outlets on every wall to maximize the students' mobility and inclusion in activities. School and fire code regulations regarding the use of extension cords must be determined and followed.

Other considerations for the classroom are the height of changing tables; these need to be convenient for both adults changing children and students who self-catheterize. The lighting of the classroom needs to be adequate for monitoring gauges. Convenient access to water is required for rinsing equipment. Classroom thermostats may need to be set below or above a school policy. Administrators should be notified of this medical need.

As much as possible, integrate the child and special equipment into the existing classroom design and routine. The actual arrangement of classroom furniture may call for expansion of the size of centers to accommodate wheelchairs and special equipment. This expansion will also maximize the
possibility for normalization. Additionally, privacy areas will need to be established for specific health care needs.

Management of the physical environment must also include mobility issues on the school campus and field trips. Medical personnel will need to be consulted as to what equipment to take on trips, positioning procedures during travel, and how to manage equipment when in transit. For example, arranging to take IV poles for a continuous tube fed student, or having adequate alternate power sources would need to be planned before taking a trip. Emergency phone numbers of parents, hospital, ambulance, utility, fire, police, and equipment vendors should be readily available.

Another consideration when traveling with the student who is technology dependent is provision of a "go bag." This should be prepared by parent and/or school medical personnel. The "go bag" might include emergency suctioning equipment, ambu bag, medications, extra trachs, rubber gloves, and extra suctioning catheters. When leaving campus, accessibility to phones should also be considered in selection of routes for field trips. This same route information should be shared with school administration.

Finally, in management of the physical environment, contingency plans for emergencies should be developed. These plans should be a collaborative effort by the family, school, and medical personnel. Action plans for equipment failure, natural disasters, and physiological crises might be included.

Addressing staff concerns. A general orientation of all staff involved with a student who is technology dependent or medically fragile should be provided either by hospital personnel or school medical personnel. This orientation should include physical signs of distress in the child, equipment
warning signals, repositioning techniques, recognizing emergency equipment in
the "go bag," and cardiopulmonary resuscitation techniques. Specific care
training based on the physician's written orders should be limited to the
classroom health care providers. The classroom teachers do not need to
participate in this specific training unless they so choose. Documentation
of the training and tasks assigned to specific personnel should be kept along
with a record of all updates of training. Whenever possible, it is a good
idea to include the parents in both general and specific training sessions to
minimize misunderstandings.

Additional staff concerns relate to scheduling demands and the increased
need for one-to-one instruction. Some children may have regularly scheduled
medical services that fit into the daily routine, but more times than not the
child will also have services that need to be provided on demand. This may
cause the child to miss a specific instructional time or related service
therapy which must be rescheduled and often is provided one-to-one.

Tests and activities may need to be modified. For example, the student
may need to use less conventional methods of generating work, such as a
computer, tape recorder, or communication board. Educational materials and
tools will have to be used in such a manner as to not interfere with the
student's life support equipment. Additional time for tests and assignments
may need to be provided, due to the student's low tolerance for physical
exertion.

The Individualized Education Plan may have some unique aspects in
development of self-help skills. For example, documentation of needed
medical services and who will provide them should be included. The child's
current performance level, amount of assistance needed, and the desired level
of participation in the procedures should also be stated. Task analysis may be required to teach many of these skills.

The physical therapist, occupational therapist, and adapted physical education teacher will need to know the compatibility of their motor development programs with the child's special health care needs. Plans for exercise programs, learning leisure time activities, developing functional mobility, and motor planning skills will need to consider the child's muscle constraints, stamina, endurance, and overall health.

The speech therapist will need to work with the classroom teacher and the parents in determining a functional communication system. Impairments such as vocal cord paralysis, diseased musculature, or a tracheostomy may require students to use augmentative communication devices.

A clear delineation of individual staff roles is needed in the classroom with students who are technology dependent and/or medically fragile. Specifically, who will provide medical related care and their backup person, who will provide educational instruction, and who will contact resource personnel (hospital consultants, vendors, parents) must be determined prior to placement. The classroom teacher may have to decide whether to be just an educator or educator and case coordinator.

Acknowledging Student/Family Needs. Students who are technology dependent or medically fragile will need the classroom teacher and related service personnel to assist them in developing positive peer interactions. Peers will need simple explanations regarding the student's support equipment, such as ventilators, and opportunities to ask questions. Whenever possible the student who is technology dependent or medically fragile should be involved in daily activities, such as the cafeteria, assemblies, full
inclusion experiences, and on the playground. Teachers should provide opportunities for cooperative learning activities and peer tutoring.

Behavioral management techniques should be consistent for these special students. Class rules may need to be adapted so as not to compromise health care needs, but as much as possible their individual discipline plan should reflect the total class plan. Parents and medical personnel may need to be consulted for additional information.

Reasonable precautions should be taken with all students against communicable diseases. It is important to explain to parents of students who are technology dependent or medically fragile that school attendance does bring a certain degree of risk of exposure. The alternative--physical isolation--would reduce their opportunities for peer interaction.

Finally, a mechanism for emotional support is needed for the family, school health caretakers, and educational staff. Apprehension and anxiety is likely to be felt by all these groups and should be acknowledged. The impact of the child's placement in a school program is initially overwhelming to all involved. Promoting candid discussions, opening communication lines, and encouraging family involvement will all contribute to the successful transition of a student who is technology dependent or medically fragile to the school system and full inclusion.
BIBLIOGRAPHY


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