Family Practice Grand Rounds

The Family Physician's Role in School Health

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DR. STEVEN R. POOLE *(Associate Professor of Family Medicine and Pediatrics)*: A wide variety of problems seen in children in school require a family physician's evaluation or intervention, and there are many school activities that have a medical component and would likely benefit from a physician's skills. The family physician, therefore, has two major roles: one as the health care provider to individual students, the other as a potential consultant to schools. Let's begin by exploring these roles.

DR. ARISTOTLE SOPHOCLES *(Assistant Clinical Professor of Family Medicine and Practicing Family Physician)*: The family physician has a critical role in school health, mainly concerning his or her private patients. The main limitation on the physician is time. The family physician should communicate with the school regarding his patients who have chronic disease or handicapping conditions. He also may play an important role in both the diagnosis and the treatment of school phobia, poor school attendance, and hyperactivity.

DR. BARTON D. SCHMITT *(Associate Professor of Pediatrics)*: The family physician can often make important contributions regarding emotional or behavioral disorders as well. In learning disabilities, the physician's role is limited, since special education teachers and school psychologists can usually handle these problems competently without our involvement.

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DR. JAMES CULLEN *(Director of Special Education, Sheridan School District)*: A good rule of thumb is that the physician should work closely with the school personnel whenever a patient's condition may in some way affect his school attendance, learning, or performance. Good communication between physician and school benefits students.

DR. SOPHOCLES: The family physician can also assist the school in developing health policies: (1) creating new programs (for example, a streptococcus-control program), (2) setting up protocols for school physical examinations, preparticipation sports evaluations, or treatment of sports injuries, or (3) developing infectious disease policies (for example, to govern when students with chickenpox can return to school).

ABBI KHARAS *(School Nurse Practitioner)*: A physician can also be helpful in providing health information to students, parents, and personnel on health-related issues. Providing information to large groups can be more time efficient than the sort of health education that occurs in the office.

DR. POOLE: How can a family physician best communicate with school personnel? Who are the best contact people?

DR. SCHMITT: The main liaison for the physician is the school nurse, since most of the problems involving the physician are health-related issues. The school nurse can pass along medical reports to the teacher and transmit information from school personnel back to the physician. When difficulties or conflicts arise, the principal is the person most likely to be able to help.

DR. SOPHOCLES: The nurse should be in-

vited to call whenever assistance is needed. The physician should also be willing to interrupt patient care to respond to the nurse's telephone consultations.

DR. POOLE: What should the family physician know about the administrative structure of schools and the capacities of various other school personnel?

DR. CULLEN: In a given school, the chief administrator is the principal, who is normally the person to contact regarding policy, new ideas, or changes within an individual school and also the person to contact when there appears to be a conflict. The classroom teacher is the person who has the most contact with an individual child and is likely best for identifying problems or monitoring a child. The teacher is also most often in contact with the parents, and initiates most referrals. Nowadays, many schools have team teaching, so that an individual pupil may have several teachers during the day.

The special education or resource-room teacher is someone who spends each school day working with pupils with special needs. The individual child is taken out of the regular classroom for sessions with the special educator for brief periods each day, usually in relatively small groups in what is called the resource room. The special education or resource teacher is, perhaps, the best contact person for the physician who is dealing with a child who has a learning disability and is in the best position for carrying out instructional or treatment programs that require one-to-one interactions with the child. The speech and language specialist is valuable for problem assessment in those areas, as well as in implementing treatment programs. He or she sees children on an individual or small-group basis.

The school counselor is usually responsible for academic, vocational, and special education counseling. Elementary schools may not have a school counselor or they may have one on limited availability. Counselors may also serve as liaison among teachers, parents, other educators, the pupil, and the physician. If the physician is in doubt regarding whom to contact on a particular issue, especially in high schools, the counselor may be an appropriate resource. The school psychologist is most often responsible for coordinat-

Continued on page 846

Continued from page 844

ing diagnostic evaluations for the child with learning or emotional problems, but there is usually very little time for the school psychologist to provide any direct therapy, and most treatment must be referred to other community resources. In addition, the school psychologist usually does not provide family treatment. The educational diagnostician is involved in diagnosing the educational needs of children and developing educational plans for the individual student. Many districts do not have an educational diagnostician, or the special education teacher may fill that role. Some school districts have a social worker who reaches out to assist families in need.

The chief administrator for an entire school district or school system is the school superintendent. His or her role involves establishing district-wide policy, managing budgets, distributing personnel, and relating to the community. There is often an assistant superintendent who works more closely with individual schools and may be more closely involved in policies of individual schools. Contracts or specific agreements with the district or individual schools are usually worked out with the superintendent or assistant superintendent.

MS. KHARAS: It is important to recognize that there are several types of school nurses. There may be a nurse's aide, with no formal medical training, who does most of the administrative work, such as immunization records, minor first aid, and so on. There may be a registered nurse who has had traditional nurse's training. There may be a public health nurse who has had public health nurse training and has more diagnostic and treatment skills than the registered nurse. Finally, there may be a nurse practitioner, who has had further training in diagnosis and treatment of common problems and general health maintenance. Several good programs around the country provide school nurse practitioners with that further training.

DR. POOLE: How does the family physician get to know the personnel at school?

MARK STINE *(High School Principal)*: It takes time to become acquainted, and the best way to start is by getting into the roles that we've suggested previously. A new physician building a practice often has time to go to staff briefings

or conferences at the school regarding certain of the physician's patients. This can be a good way to get acquainted and develop relationships and credibility.

DR. POOLE: Before we talk about the family physician's role in the management of specific school problems, we should discuss the existing guidelines regarding the rights of the school child who has special educational, medical, or psychological needs. The Education for All Handicapped Children Act (Public Law 94-142) of 1975 states that all children with special needs have the right to free public education, appropriate evaluation of their disabilities, and an individualized education program.[1,2] Schools must make available education appropriate to assist children in reaching their potential despite their disabilities. This law applies to children with mental retardation, hearing disorders, visual handicaps, cerebral palsy, speech and language disorders, specific learning disabilities, emotional or behavioral problems, orthopedic handicaps, or specific health impairments. The law also ensures that parents are allowed to participate in all educational decisions and describes parental due process. The law does not delineate the role of physicians; therefore, their role will vary from school district to school district. However, there is definitely a role for the physician in each category.

Let's begin with the family physician's role in assisting the school with the education of the child with a handicapping condition or chronic disease.

MS. KHARAS: For these children, the school nurse is definitely the best contact person. The school nurse can translate the medical diagnosis and treatment to the school personnel, coordinate treatments within the school setting, and serve as a common pathway of information back to the physician regarding the child. It would be helpful to have information from the physician regarding what the nurse or other school personnel can do specifically for the child while the child is in school: making observations or monitoring the child, altering or limiting activities, managing specific problems or behaviors, and giving medications. Most schools will not dispense medication unless it comes to school in a pharmacy-labeled bottle. Physicians can facilitate the care of children at school by asking the pharmacy to dispense medication in two bottles. In addition, a handicapped child often requires special treatment in

school which, in turn, requires specific orders, as, for example, physical therapy.

It is very helpful to have the physician's requests and recommendations in writing. Of course, direct communication between physician and school personnel is the best way to ensure accurate exchange of information.

JUANITA OPPEGARD *(School Psychologist)*: It is helpful for school personnel and the physician to communicate directly at some point regarding how the individual child's condition affects the child's learning, self-concept, and moods. Often the school has information important and useful to the physician, and it is important for the physician and the school each to know what the other is telling the family.

DR. POOLE: Some of our most useful information can come from a school nurse or from teachers, for example, for problems such as exercise-induced asthma, seizure disorders, cerebral palsy, and behavioral problems. This leads us to the family physician's role regarding the child with emotional or behavioral problems.

DR. SCHMITT: We should keep in mind that general classroom teachers prefer not to confront parents about emotional problems, since they feel that to remain effective, they need the parents as allies. The school social worker or psychologist, if one is available, can appropriately evaluate many such problems. Often the schools send children with emotional problems to us to validate the presence of these problems or to be the one to give the "bad news." It might, in that case, be our role to define the pervasiveness of the emotional problems. If they are limited to the school, we can support the school's expectations and rules. If the problems are more pervasive, we can refer the child and family to appropriate mental health resources or help the family ourselves.

DR. CULLEN: Schools have a very difficult time working with parents and students in this area. It's true, the agreement and support of the physician may lend additional credibility to the efforts of the school. Again, teacher-physician communication is crucial so that one does not undercut the other, and often the physician has important information about the family that helps us understand the behavior of the child. It is important for the family physician to feel he can share this information with the teachers.

DR. POOLE: What is the minimal evaluation that a child with learning disabilities should have? And what is the role of the family physician in the process?

DR. CULLEN: What learning disability really means is that there is a discrepancy between the identified intellectual potential and the level of academic functioning of a child. First, we assess the intellectual potential using intelligence testing and then we identify the functional grade level of the child using academic tests. If there's a significant discrepancy, we attempt to identify the specific areas of deficit and develop a specific educational program to remediate the problems. Parents often ask their family physician's opinion regarding this discrepancy and its cause. The family physician can contribute to the evaluation by identifying physical causes, particularly decreased visual acuity, decreased hearing, chronic diseases, hyperactivity, adverse effects of medications, obvious neurological diseases, or emotional problems.

DR. POOLE: Learning disabilities are nearly always the result of static central nervous system (CNS) dysfunctions that are hereditary (multigene) or the result of an unknown prenatal or perinatal insult. On occasion it is the result of trauma or CNS disease such as encephalitis or meningitis. Only extremely rarely is it due to a progressive disease.

I think it's important to emphasize that if the traditional neurological examination the physician learned in medical school is normal and the neurological review of systems is normal, the family physician does not need to worry about an underlying neurological condition. The "soft signs" that received a lot of attention a decade ago are really in the domain of the learning disability educator and do not require medical intervention. Thus, if we have evaluated the child's health, vision, hearing, neurological, and emotional problems, and there is no evidence of significant hyperactivity, then the child with learning disabilities should be managed by schools, not physicians. The vast majority of learning disabilities in children do not have medical causes.

DR. SOPHOCLES: Nevertheless, we do have a role in being an advocate for the family: being sure services are made available, helping parents understand, and monitoring the impact of the affected child on the parents and siblings.

DR. POOLE: This brings up the question of

Continued on page 851

Continued from page 848

what the family physician's role should be in the management of the overactive child.

DR. SCHMITT: In overactive children, the school mainly wants clearance that the problem is not a physical one. Occasionally they want attention-enhancing drugs (ie, stimulants like Ritalin). Sometimes, the school needs a physician to tell the parents that the cause is a severe emotional problem, namely, a family problem. As we all know, chaotic homes breed chaotic children.

DR. POOLE: It is important that we view "overactivity" as a symptom for which there is a differential diagnosis, and the family physician may be the best person to work through that differential diagnosis. The differential diagnosis includes five types of overactivity: constitutional, emotionally based, neurologically based, disease-related, and drug reaction. Constitutional overactivity refers to the child whose intellectual potential, school performance, past development, and behavior are essentially normal except that the child may be more restless or have more difficulty with attention span than other children. The treatment for that child is a behavioral approach consisting primarily of positive reinforcement for calmer behavior and for longer attention to tasks. These children also need to get plenty of sleep at night and have an ample outlet to channel their physical energy.

Another important diagnosis in the differential is the child with overactivity as a manifestation of anxiety or depression. Depression and anxiety in preschool and young school age children are commonly manifested by overactivity, poor attention span, and restlessness. Again, the family physician may be in the best position to recognize psychosocial causes of "overactivity" in the child he has known for some time.

Certain diseases, including asthma, eczema, and hayfever, evoke overactivity. When the asthmatic child is wheezing and slightly dyspneic, he may be restless, irritable, nervous, or have difficulty with attention span. As we increase the dose of the bronchodilator and the reactive airways disease comes under control, the side effects of the medication may begin to play a part in restlessness and difficulties with attention span. Certain other medications, such as phenobarbital, can produce unexpected overactivity. The same is true with hayfever, antihistamines, and decongestants. Children who are in pain also may be restless and inattentive.

The child with neurologically based overactivity has, in association with restlessness and poor attention span, one or more of the following: (1) a CNS disorder, (2) history of delayed development, and (3) specific learning disabilities. This child is most likely to be helped by stimulant medication.[3,4] There are other children without neurologic disorders, and with normal intelligence and capacity, but restlessness and poor attention span interfere with their performance and learning in school. Such children deserve a trial of stimulant medication. The basis of management with stimulant medication is monitoring the effect of stimulant medication. We recommend that the physician use the Connors rating scale of overactivity as a means of documenting that the child is overactive, and to use that rating scale after institution of therapy to document a therapeutic effect.[5] The school nurse and teachers make entries on the scale before and after beginning the medication. We continue medication only if a significant improvement is noted.

Parents may find that the following will be helpful in decreasing overactive behavior in the home: (1) make sure the child gets enough sleep, (2) encourage exercise to expend excess energy, (3) use quiet times with relaxing and quiet activities to interrupt the escalation of hyperactive behavior, (4) when realistic, avoid situations known to exacerbate activity, and (5) practice and positively reinforce attention to tasks, using games and other home activities.

DR. SOPHOCLES: The family physician can also give advice to help the parents cope with the overactive child at home.

DR. POOLE: Another common problem that requires interaction between the physician and school is school phobia. How should this be handled?

DR. SCHMITT: In managing school phobia, the physician's role is critical.[6] A medical evaluation is needed to distinguish between organic and psychosomatic problems. This diagnostic role is not appropriate for a psychiatrist or a psychologist. Next, the physician pronounces the child physically well and convinces the family that the cause is psychological. The family is then told how common school phobia is (3 to 5 percent of chil-

Continued on page 854

Continued from page 851

dren).[6] The only effective treatment is regular school attendance. Being in school every day must be an ironclad rule. The parents will need to be especially firm in the morning for several weeks. If the parents are able to do this, the child will master his or her anxiety about leaving home. On any morning when the child "must stay home" for illness, the physician is needed to reassess the child and send him along to school should the condition be minor or, again, a psychosomatic symptom. Communication between physician and the school nurse is essential. The school nurse or some other representative of the school should call the physician if the child's attendance remains poor or if the child is in the nursing station and wants to go home. Then the physician and school nurse can work together to decide whether the child should stay in school or come to see the physician. This approach is coupled with assistance for the child in handling the underlying source of anxiety. In some instances, mental health referral is needed when progress is slow.

DR. POOLE: Family physicians see a large number of children for the routine physical examinations required by the school system. What specific school issues should the family physicians investigate in addition to the routine history and physical examination?

DR. SCHMITT: At the minimum, the physician should ask about school attendance, changes in grades, any suspensions, and problems with gym or school athletics. Often the well-child check is the only opportunity to get this sort of information and assist with related problems.

DR. SOPHOCLES: It is also important to ask about the child's attitude toward school and how he gets along with peers and teachers. Difficulties in school may be the first sign of depression or other underlying emotional problems. Of course, we need to ask whether the student has any health questions. We may need to introduce specific topics to facilitate discussion, for example, acne, sex education, menarche, feelings about siblings or parents, and birth control.

MS. OPPEGARD: It is also important to ask children who are having problems in school whether there's anyone they can talk to about the problems. They may not feel that anyone knows or cares about their problems. A practicing family

physician can alert the school to this sort of child. It is also important to recognize the parents' perception of the problem. The family physician may be able to assist the parents in understanding the reasons for particular problems.

DR. POOLE: If, with this sort of questioning, the family physician identifies significant problems, the next step is to solicit feedback from school personnel such as the school nurses or teachers. It helps to have a form that you can send to the teacher to get a better reading of how the child is doing.*

DR. CULLEN: The physician should also have the parents sign a release of information to ensure availability of all information.

DR. POOLE: Another difficulty for family physicians may come when we are asked to evaluate a child for participation in sports. What does the school really want to know, and how much of an examination or evaluation is necessary?

DR. JAN UPDIKE *(Clinical Assistant Professor of Family Medicine)*: The first thing to remember is that the major purpose of the physical examination is to get the child into an appropriate sport, not to exclude him from participation. The next major purpose is to attempt to reduce life-threatening or disabling injuries by recognizing any predisposing factors and recommending ways of preventing morbidity or rehabilitation problems. There is wide variability in the strenuousness of various sports,[7] and there is a sport for every child and every disease. If a child does have a particular disease or handicap, the family physician may be able to help that individual choose a sport that is well-suited to the child. Unfortunately, there is not time here to discuss the options for children with different diseases or handicapping conditions, nor is there time to go over the classification of the strenuousness and risks of the various sports. However, there was an article in *Pediatrics in Review* that handled all of this in a very detailed fashion.[7] The Committee on the Medical Aspects of Sports of the American Medical Association and the Academy of Pediatrics Committee on School Health have published lists of the diseases that place children and adolescents at risk in the various sports.[8,9] There is also a statement of guidelines for female athletes,[10] a topic with which we all need to become more familiar. These four references are essential for the physician who does preparticipation sports physical examinations.

DR. POOLE: What are the core elements of a good sports physical?

DR. UPDIKE: The preparticipation sports examination should include an individual history that focuses on the student's past history of syncope, injuries, concussion, hospitalizations, cardiac disease, arrhythmia, hypertension, epilepsy, diabetes, and asthma. A family history should look at asthma, cardiac problems (early myocardial infarction), and sudden death. The physical examination should include blood pressure, vision testing, examination of the eyes, oral cavity, lungs, heart, abdomen, and genitalia, and a very thorough orthopedic examination. The orthopedic evaluation involves examination for limited range of motion, deformities, asymmetries, and scoliosis. It is also recommended that a urinalysis be done. The results should be reviewed with the child and his family. At this time also discuss safety and good nutrition. Again, the key is to find the sport that is appropriate for the individual rather than to exclude the individual from sports activities.

Another issue is the family physician as team physician. This experience can be rewarding and enjoyable; however, it certainly isn't for everyone. There is a very good article on the role of the team physician and how to decide whether that's for you in a recent issue of *Pediatric Clinics of North America*.[11] I can recommend the article to those of you who may have an interest in this area.

DR. POOLE: Does the physician have a role in the classroom in health education?

MS. KHARAS: Very definitely. Students enjoy outside speakers, and physicians have more credibility than most other classroom speakers. Topics to consider might include self-care, cancer prevention, how best to relate to physicians (being a good consumer), current popular topics (like toxic shock syndrome, immunizations, Reye's syndrome, AIDS), and common diseases as they relate to what students are learning in their biology classes. The physician can also contribute to career planning: what it is like to be a physician, what training is needed, and so on, and students simply enjoy question-and-answer sessions with physicians.

MR. STINE: Certain topics will have more impact on students if presented by a physician rather

*A sample form is available from the authors upon request.

than a health teacher. These topics would include sex education, reproductive system, abortion, contraception, and any information regarding health promotion or "wellness."

DR. CULLEN: I'd like to see the physician work more closely with teachers and other school employees on health education programs for students, teachers, parents, and other employees, particularly in the area of prevention. Schools have a wealth of facilities and want to convey to their students a commitment to good health. The physician who works with the school to provide preventive health educational programs would provide a great service to the community.

DR. POOLE: A new physician can do a great deal to build his or her own practice and to get referrals by volunteering to speak in classrooms or to parents' groups or groups of school personnel.

What other roles can family physicians fill within the school districts?

MS. OPPEGARD: I would say that a physician's most useful role in schools is by way of consultation with administration and staff. It would be wonderful if there were a physician who would be willing to respond to questions from school personnel regarding individual children or policies in general. Many school districts would be willing to pay for this sort of consultation.

DR. CULLEN: Schools frequently make policy decisions that require medical counsel. We need physicians who are willing to give us advice on these issues.

DR. POOLE: For the family physician interested in taking on a consultative role with a school system or simply wishing more involvement, guidelines are provided in an excellent article in *Pediatrics in Review*.[12]

Are there any last thoughts or recommendations?

DR. SCHMITT: I see us as being the child's advocate. The physician can ensure that the school system provides individual children with the evaluations and programs to which they are legally entitled. If a child with chronic disease or handicap is not receiving those services, the family physician can act as an advocate and urge the school to develop a program to meet the needs of the child.

DR. POOLE: It seems there is a wide variety of roles for the family physician in school health (Table 1). You have helped us understand these roles, given us advice on how to meet these responsibilities, and directed us to specific relevant resources. Thank you.

Table 1. The Family Physician's Role in School Health

As Health Care Provider to the Child

- Heath impairment (eg, seizure disorder, diabetes mellitus, cardiovascular disease, chronic respiratory diseases)
- Handicapping conditions (eg, visual impairment, hearing disorders, orthopedic handicaps, speech disorders, mental retardation, cerebral palsy)
- Emotional and behavioral disorders
- Specific learning disorders
- Hyperactivity
- School phobia
- School physical examinations
- Preparticipation sports physical examinations

As Consultant to Schools

- Speaking on health topics to classroom students, parents, or school personnel
- Consultation to school administration on health issues
- Team physician
- Workers compensation

References

1. Palfrey JS, Mevis RC, Butler JA: New directions in the evaluation and education of handicapped children. N Engl J Med 298:819, 1978
2. Wright GE: The pediatrician's role in Public Law 94-142. Pediatr Rev 4:191, 1982
3. Sroufe LA, Stewart MA: Treating problem children with stimulant drugs. N Engl J Med 289:407, 1973
4. Council on Child Health of the American Academy of Pediatrics: Medication for hyperkinetic children. Pediatrics 55:4, 1975
5. Connors CK: A teacher rating scale for use in drug studies with children. Am J Psychiatry 126:884, 1969
6. Schmitt BD: School phobia: The great imitator. Pediatrics 48:433, 1971
7. Strong WB, Linder CW: Preparticipation health evaluation for competitive sports. Pediatr Rev 4:113, 1982
8. AMA Committee on Medical Aspects of Sports, publication No. 0138-590K; 7/74-3M op-209. Chicago, American Medical Association, 1974
9. American Academy of Pediatrics Committee on School Health: A guide for health professionals. Pediatrics 59:223, 1977
10. American Academy of Pediatrics Committee on the Pediatric Aspects of Physical Fitness, Recreation and Sports: Participation in sports by girls. Pediatrics 55:563, 1975
11. Stackpole JW, Murray JJ: School team physicians. Pediatr Clin North Am 29:1383, 1982
12. Nader PR: A pediatrician's primer for school health activities. Pediatr Rev 4:82, 1982