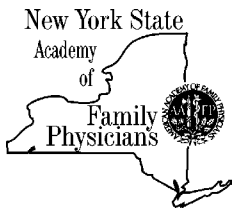


Volume five • Number three

Winter 2017

# Family Doctor

A JOURNAL OF THE NEW YORK STATE ACADEMY  
OF FAMILY PHYSICIANS



## FEATURE ARTICLES:

- Adolescence and Alcohol Use Disorders
- Managing Chronic Illness in the Adolescent
- Vaccination: A Sticking Point
- Exercise and Weight Training in Adolescents

# ADOLESCENT



# HEALTH

*Focus:*

**Adolescent Health**

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**2**

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**3**

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## From the Executive Vice President

By Vito Grasso, MPA, CAE

### Adolescent Health

The breadth of topics covered in this issue of Family Doctor illustrate both the scope of care provided by family physicians and the unique character and needs of defined populations of patients. These are important and recurring themes in our advocacy at both the state and national level.

As illustrated by the variety of topics, there are unique challenges associated with caring for adolescent patients. Many of the complicating factors are caused by policies and decisions made by insurance plans and by regulators. The ability of family physicians to treat adolescent patients is significantly determined by the policies of plans which may limit their coverage of certain services based on specialty.

Additionally, the benefits covered by a plan may be a consequence of parameters established by political circumstances. This is especially true for Medicaid. Medicaid expansion, for example, provides enhanced federal funding for states that cover services for addicts. The choice of whether to provide this coverage and to what extent, are political decisions and ultimately reflect the political realities of that particular state. Access to reproductive health care is also

unevenly available throughout the country. Many states do not have an adequate supply of providers to deliver reproductive health services and others erect barriers to access, such as requiring a waiting period or parental consent for a minor to obtain services.

We routinely encounter misconceptions about family medicine as we conduct our advocacy efforts in various settings and among different audiences. It is frequently necessary for us to educate regulators, policy makers, health plan executives and others about the scope of practice and range of training of family physicians. Our efforts to educate and inform others about family medicine and the perspective of family physicians on the broad spectrum of issues which comprise health policy at every level, are greatly enhanced by the participation of our members in our advocacy efforts. It is very impactful when family physicians tell their own story, whether the conversation is about investing in primary care, the unique privacy concerns of adolescent patients or any of the myriad issues which legislatures, regulators and health plan managers deal with each day. As we participate in those

conversations, the voice and experience of our members is always the most important and effective resource we can draw upon in influencing policy.

There are several mechanisms for members to use to contribute your voice and perspective to our advocacy. Active involvement in the Academy is the most important. Serving on a commission, participating in our Congress, running for an Academy office, becoming a key contact for the AAFP, attending the Family Medicine Congressional Conference and attending our annual NYSAFP lobby day are all important ways for you to help define and promote Academy policy.

We have had a number of successes in recent years in advocating for the interests of family physicians and their patients. In 2017 and beyond we will continue to promote policies that enhance the ability of family physicians to effectively serve adolescent patients. We hope we can count on your support and look forward to hearing from you as we endeavor to make and promote policy to enable you to provide the scope and quality of care your patients expect.

*...we will continue to promote policies that enhance the ability of family physicians to effectively serve adolescent patients.*



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## President's Post

By Robert Ostrander, MD, FAFPP

**F**or this edition of the journal, I decided to share some short random thoughts. Hopefully, they are discussion starters. For anyone who reads this article and has some comments, a letter to the Editor or a post on our webpage or Facebook page would be welcome.

**Why do so many medical students apply to emergency medicine programs?** More and more pre-medical students and medical students I talk casually with indicate a desire to become emergency medicine physicians. A quick look at the 2016 match indicates 1,930 Senior US allopathic medical students applied to emergency medicine programs, while 1,428 applied to family medicine programs. I looked at allopathic programs because those are the students I have been talking to. It was also interesting to note that the family medicine applicants had the lowest average board scores of any specialty listed and that the average emergency medicine applicant had significantly higher board scores. (Dermatology and neurosurgery had the highest.) I was talking this over recently with my son and partner, Dr. Geoffrey Ostrander, and speculated that the issue was “too much TV.” Television programs portray emergency medicine physicians as doctors who can rapidly diagnose and treat every condition-performing all the most modern diagnostic and treatment procedures themselves. Geoffrey, who has much more direct knowledge of this than I, tells me that the biggest attraction to emergency medicine is that the episodes of care are circumscribed and provide “closure”-without loose ends-at least for the emergency medicine physician. I personally find this

disturbing, because what we really need are a large number of bright and energetic physicians to manage complex chronic conditions where there will always be loose ends and unsolved problems.

**The impact of a broken liability system.** “The U.S. medical malpractice liability system has two principal objectives: to compensate patients who are injured through the negligence of healthcare providers and to deter providers from practicing negligently. In practice, however, the system is slow and costly to administer. It both fails to compensate patients who have suffered from bad medical care, and compensates those who haven’t.” (Kessler DP. Evaluating the Medical Malpractice System and Options for Reform. The journal of economic perspectives: a journal of the American Economic Association. 2011;25(2):93-110.) With everyone’s attention turned toward healthcare payment and delivery reform, focus has been drawn away from liability reform. However, I think if you ask most physicians you would find that a large majority of us still find this a big source of stress and burnout. It is unfortunate that when we do talk about lawsuits, it largely gets discussed in economic terms. For me, the personal angst overshadows any concerns I have about the money. My experience with this was that excellent and well documented care exceeding every standard provided no assurance that we would not be held liable for the consequences of a very serious condition. Furthermore, the inability to discuss everything I was going through with my normal support system throughout this drawn out process, because of “discoverability”, was draining. And it

dragged on for years. Cognitively, I keep it in perspective, but viscerally I still often feel that there is someone looking over my shoulder-probably one of those faces on the lawyers’ billboards waiting to shout “gotcha.”

**Our identity crisis: Are we providers, “primaries,” PCPs, doctors, or physicians?** I am pretty sure most of us hate the first three. I am particularly annoyed when my subspecialty colleagues tell my patients, “Have your primary fill out that form.” Because of increased training, as well as political and economic considerations, many in various healthcare fields are now designated as “doctor.” For example, my nephew and others I know who are going into physical therapy are all in DPT-Doctorate in Physical Therapy-programs. Doctor of Nurse Practice (DNP), Doctor of Audiology (Aud. D.) and Doctor of Pharmacy (Pharm. D.) are just a few more examples of professions where only recently achieving a doctoral degree is the norm for practice. For patients who are not in academia or health care, this can be confusing. I have always thought of myself as a physician, a family’s physician or someone’s personal physician. Recently, I have been more conscious of using that term when referring to us, and gently correcting others who refer to me as “Provider” or “PCP” by inserting the word physician, family physician or personal physician into my side of the conversation.

In closing, I hope those of you who read this found it thought provoking, will perhaps show it to others, and will share your ideas with all of us. I wish everyone in the Academy a healthy, meaning-filled and happy 2017.





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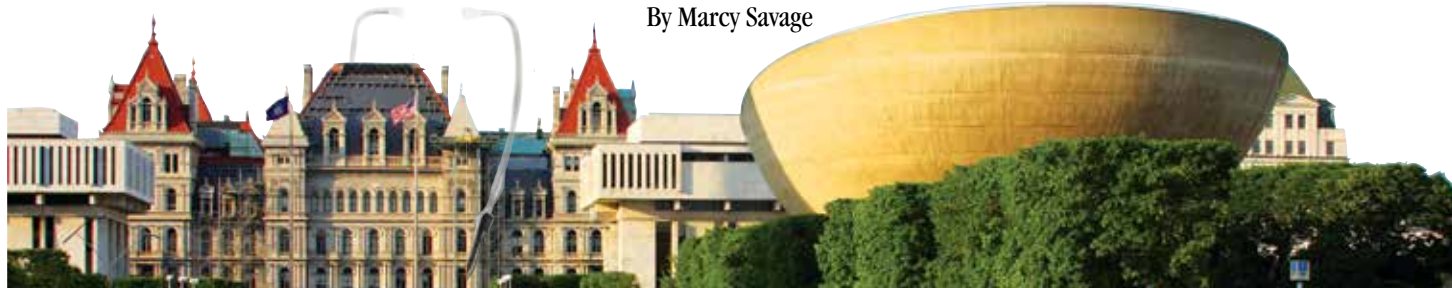
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## Albany Report

By Marcy Savage



### LEGISLATIVE UPDATE

**G**overnor Andrew Cuomo has had until the end of the calendar year to act on legislation passed by both houses during the 2016 session. Most bills have been considered by this point and the New York State Academy of Family Physicians (NYSAFP) has been highly successful in getting the Governor's approval for all of the priority bills which have been transmitted to his desk. We summarized these bills below, outlining the Academy's efforts and the effective date of the new laws. The Academy could not have been victorious without all of the support and advocacy of its membership who pushed for the advancement of this legislation.

There is one bill which is a priority for the Academy which has not yet been sent to the Governor for consideration. For several years, NYSAFP has been a lead organization in a coalition working to regulate health insurer use of step therapy (fail first) policies in New York. The Academy has been calling for the need to limit the use of these policies and instead put medical decision-making back in the hands of physicians who know their patients best. This year, NYSAFP participated in a lobby day and other advocacy efforts throughout the session with a coalition of nearly 80 patient advocacy and medical organizations to advocate for the passage of this bill. Importantly, the bill (S3419C, Young/ A2834D, Titone) includes two basic patient protections to improve the safety and efficacy of such policies:

(1) It requires that the clinical review criteria used by an insurer to establish fail first/ step therapy policies be based on science and evidence-based clinical practice guidelines to ensure that they are not exclusively driven by cost; and

(2) It requires a clear and expedient appeals process through utilization review that can be used by physicians and other prescribers to request an override of a fail first/ step therapy requirement. Under the bill, an override would be given if the patient's physician demonstrates that the drug(s) being required by the insurer:

- a) will likely cause patient harm
- b) is expected to be ineffective
- c) has been tried by the patient and was proven ineffective
- d) the patient is stable on the drug being recommended by the physician, or
- e) the drug is otherwise not in the best interest of the patient

As a result of the strong efforts by the Academy and its many partners, both the Senate and Assembly passed this bill unanimously. It has not yet been transmitted to the Governor but we have been working throughout the off-session to advocate for the Governor's approval. We soon hope to have more good news to share that the bill will become law.

### ACADEMY PRIORITIES ACTED ON BY THE GOVERNOR

#### *Electronic Prescribing: Transfer of Prescriptions (S7537-A Martins/A10488 Schimel)*

Effective March 27, 2016, all prescriptions in New York State were required to be filed electronically unless an exception is granted by NYS DOH. This bill authorizes a pharmacy that is unable to fill an initial electronic prescription to transfer that prescription to another pharmacy at the request of a patient. This bill addresses circumstances

where a pharmacy that receives an initial e-script is unable to immediately fill the script, forcing the patient to return to the prescriber to obtain a new prescription for a different pharmacy.

On November 28th, the Governor signed the bill into law, Chapter 468 of the laws of 2016. It will take effect on the 90th day after becoming law on February 28, 2017.

#### *Electronic Prescribing: Filing Requirements for Exemptions (S6779-A Hannon/A9333B Gottfried)*

Also on the e-prescribing front, under the ISTOP law physicians or other prescribers who used one or more of the exemptions to the e-prescribing mandate were required to electronically file a long list of information with the NYS DOH each time they invoke an exemption. This filing requirement was time consuming and burdensome for prescribers. This legislation replaces the requirement for a filing with NYS DOH to a requirement that the prescriber make a notation in the patient record.

On September 29th, the Governor signed the bill into law, Chapter 350 of the laws of 2016. It took effect immediately.

#### *HIV Changes "Ending the Epidemic" (S8129, Hannon/A10724, Rules-Gottfried)*

In the final days of the session, legislation was introduced as a Governor's Program bill to implement the "Ending the AIDS Epidemic" recommendations. This legislation would:

- Remove requirement for informed consent from an individual prior to performing an HIV related test. The bill would require

that the individual be advised that an HIV related test is going to be performed, and that any objection by the individual be noted in the individual's medical record;

- Eliminate the existing upper age limit (64) for purposes of the required offering an HIV related test;
- Authorize a physician to issue a non-patient specific order for registered nurses to screen persons at increased risk for syphilis, gonorrhea and chlamydia and to allow a registered nurse to do such screening; and
- Authorize a physician or nurse practitioner to prescribe and order a patient specific or non-patient specific order to a pharmacist for dispensing a seven day starter kit of post-exposure prophylaxis (PEP) for the purpose of preventing HIV. Also it would allow a licensed pharmacist to dispense the seven day starter kit of PEP pursuant to such an order.

On November 28th, the Governor signed the bill into law, Chapter 502 of the laws of 2016. It took effect immediately.

### ***Timeline for Health Care Plan Credentialing (S2545D Lanza/A501-E Cusick)***

This bill shortens the time frame from 90 days to 60 days for a health plan to approve a fully complete credentialing application submitted by a health care professional who is part of a physician group. In addition, in instances where additional time is needed because of a lack of necessary documentation, a health plan must make a final determination within 21 days of receiving the additional information.

On November 14th, the Governor signed the bill into law, Chapter 425 of the laws of 2016. It will take effect on April 1, 2017 and shall apply to all applications submitted on or after such date.

### ***Human Trafficking Identification (A8650B Paulin/ S6835B Lanza)***

NYSAFP also supported this bill related to the "Identification and Assessment of Human Trafficking Victims." This legislation requires every general hospital, public health center, diagnostic center, treatment center, or outpatient department to provide: identification, assessment, and appropriate

treatment or referral of persons suspected as human trafficking victims; notification to social services when the trafficked person is under the age of 18; and training of staff in the recognition of indicators of human trafficking and the responsibilities in dealing with persons suspected as human trafficking victims.

On November 4th, the Governor signed the bill into law, Chapter 408 of the laws of 2016. It will take effect one year from enactment or November 4, 2017.

### **ELECTION UPDATE**

While this year's election has brought about a number of changes for 2017, at the state level there will be a number of new faces in the Legislature but the power structure is expected to remain largely unchanged. Below is an update on the election results in both the NYS Senate and Assembly. If you do not already know your Senate and Assembly district numbers, there is a search function on the Assembly and Senate websites to look it up. (<http://nyassembly.gov/mem/search/> and <https://www.nysenate.gov/registration/nojs/form/start/find-my-senator>)

Also, NYSAFP plans to develop a letter that can be used early in the 2017 session by members to reach out to their Senators and Assembly members to congratulate them on their elections and highlight the important work that you do in their communities and the legislative priorities of NYSAFP. Please look for more information from the NYSAFP office on this effort early in the New Year.

### ***NYS Senate***

After a strong republican showing in the NYS Senate, GOP candidates finished ahead in 31 districts, though a recount on Long Island has kept the exact tally unknown at this point. Republicans gained a seat in Buffalo but one of their incumbents, freshman Senator Michael Venditto, is currently going through the recount process.

That leaves 31 republicans, one seat shy of the 32 votes needed to control the chamber. However, Brooklyn democratic Senator Simcha Felder recently said that he will continue to conference with the republicans and support republican Senator John Flanagan as Majority Leader. This provides the needed 32 seats so the republicans are expected to retain the majority.

It's still unclear how the chamber's Independent Democratic Conference (IDC) will align itself. The conference grew to seven members and has previously allied with republicans. We await a formal announcement of the IDCs decision prior to the start of the next session in January.

### ***NYS Assembly***

The Assembly Democratic Conference slightly increased their already massive majority in the state Assembly to 107 in the 150-member body. Democrats picked up a Plattsburgh-area seat that had been held by republicans for decades, most recently outgoing Assemblywoman Janet Duprey. Franklin County legislator, Billy Jones won by about four points. The party also regained a traditionally democratic seat in Buffalo left vacant by outgoing Assemblywoman Angela Wozniak.

The night's biggest surprise for the lower house came in Long Beach, where democrats lost a seat they've held since 1965. The district was most recently held by Todd Kaminsky, who vacated it when he won a Senate special election in April. Republican Missy Miller, an advocate for the state's medical marijuana law, defeated Anthony Eramo by about six points.

Only one incumbent Assembly member was ousted. Assemblyman John Ceretto, who was elected to three terms as a republican but joined the democrats last year, was defeated by nine points by former republican Niagara Falls judge Angelo Morinello.

The 107-member conference gives Assembly democrats absolute control of the occasional proceedings that require a majority of the full 213-member Legislature, such as electing regents and filling vacancies in statewide offices, at least as long as they hold on to that number.

You will find Senate and Assembly election results by district on the following pages.

**continued on next page**



2016 Senate Election Results:

Senate District	Republican (incumbents in bold)		Democrat (incumbents in bold)		Winner	Party
	First Name	Last Name	First Name	Last Name		
1	<b>Kenneth</b>	<b>LaValle</b>	Greg	Fischer	LaValle	R
2	<b>John</b>	<b>Flanagan</b>	Peter	Magistrale	Flanagan	R
3	<b>Thomas</b>	<b>Croci</b>	John	De Vito	Croci	R
4	<b>Philip</b>	<b>Boyle</b>	John	Alberts	Boyle	R
5	<b>Carl</b>	<b>Marcellino</b>	James	Gaughran	Marcellino	R
6	<b>Kemp</b>	<b>Hannon</b>	Ryan	Cronin	Hannon	R
7	Elaine	Phillips	Adam	Haber	Phillips	R
8	<b>Michael</b>	<b>Venditto</b>	John	Brooks	Undecided	
9	Chris	McGrath	<b>Todd</b>	<b>Kaminsky</b>	Kaminsky	D
10			<b>James</b>	<b>Sanders</b>	Sanders	D
11	Mark	Cipolla	<b>Tony</b>	<b>Avella</b>	Avella	D
12	Marvin	Jeffcoat	<b>Michael</b>	<b>Gianaris</b>	Gianaris	D
13	Jesus	Gonzalez	<b>Jose</b>	<b>Peralta</b>	Peralta	D
14	Jarret	Freeman	<b>Leroy</b>	<b>Comrie</b>	Comrie	D
15	Michael	Conigliaro	<b>Joseph</b>	<b>Addabbo</b>	Addabbo	D
16	Carlos	Giron	<b>Toby</b>	<b>Stavisky</b>	Stavisky	D
17	<b>Simcha</b>	<b>Felder</b>			Felder	D/R
18			<b>Martin</b>	<b>Dilan</b>	Dilan	D
19			<b>Roxanne</b>	<b>Persaud</b>	Persaud	D
20	Menachem	Raitport	<b>Jesse</b>	<b>Hamilton</b>	Hamilton	D
21	Brian	Kelly	<b>Kevin</b>	<b>Parker</b>	Parker	D
22	<b>Marty</b>	<b>Golden</b>			Golden	R
23			<b>Diane</b>	<b>Savino</b>	Savino	D
24	<b>Andrew</b>	<b>Lanza</b>			Lanza	R
25	Mamie	Rose	<b>Velmanette</b>	<b>Montgomery</b>	Montgomery	D
26			<b>Daniel</b>	<b>Squadron</b>	Squadron	D
27			<b>Brad</b>	<b>Hoylman</b>	Hoylman	D
28			<b>Liz</b>	<b>Krueger</b>	Krueger	D
29	Jose	Colon	<b>Jose</b>	<b>Serrano</b>	Serrano	D
30	Jon	Girodes	<b>Bill</b>	<b>Perkins</b>	Perkins	D
31	Melinda	Crump	Marisol	Alcantara	Alcantara	D
32			<b>Ruben</b>	<b>Diaz</b>	Diaz	D
33			<b>Gustavo</b>	<b>Rivera</b>	Rivera	D
34			<b>Jeffrey</b>	<b>Klein</b>	Klein	D
35			<b>Andrea</b>	<b>Stewart-Cousins</b>	Stewart-Cousins	D
36			Jamaal	Bailey	Bailey	D
37	Julie	Killian	<b>George</b>	<b>Latimer</b>	Latimer	D
38	Thomas	DePrisco	<b>David</b>	<b>Carlucci</b>	Carlucci	D
39	<b>William</b>	<b>Larkin</b>	Christopher	Eachus	Larkin	R
40	<b>Terrence</b>	<b>Murphy</b>	Allison	Boak	Murphy	R
41	<b>Sue</b>	<b>Serino</b>	Terry	Gipson	Serino	R
42	<b>John</b>	<b>Bonacic</b>	Pramilla	Malick	Bonacic	R
43	<b>Kathleen</b>	<b>Marchione</b>	Shaun	Francis	Marchione	R
44	Christopher	Davis	<b>Neil</b>	<b>Breslin</b>	Breslin	D
45	<b>Elizabeth</b>	<b>Little</b>			Little	R
46	<b>George</b>	<b>Amedore</b>	Sara	Niccoli	Amedore	R
47	<b>Joseph</b>	<b>Griffo</b>			Griffo	R
48	<b>Patricia</b>	<b>Ritchie</b>			Ritchie	R
49	<b>Jim</b>	<b>Tedisco</b>	Chad	Putnam	Tedisco	R
50	<b>John</b>	<b>DeFrancisco</b>			DeFrancisco	R
51	<b>James</b>	<b>Seward</b>	Jermaine	Bagnall-Graham	Seward	R
52	<b>Frederick</b>	<b>Akshar</b>	Sharon	Ball	Akshar	R
53	<b>David</b>	<b>Valesky</b>			Valesky	D
54	Pam	Helming	Kenan	Baldrige	Helming	R
55	<b>Rich</b>	<b>Funke</b>			Funke	R
56	<b>Joseph</b>	<b>Robach</b>	Ann	Lewis	Robach	R
57	<b>Catharine</b>	<b>Young</b>	Lee	Hyson	Young	R
58	<b>Thomas</b>	<b>O'Mara</b>	Leslie	Danks Burke	O'Mara	R
59	<b>Patrick</b>	<b>Gallivan</b>	Tom	Casey	Gallivan	R
60	Christopher	Jacobs	Amber	Small	Jacobs	R
61	<b>Michael</b>	<b>Ranzenhofer</b>	Thomas	Loughran	Ranzenhofer	R
62	<b>Robert</b>	<b>Ortt</b>			Ortt	R
63			<b>Timothy</b>	<b>Kennedy</b>	Kennedy	D

## 2016 Assembly Election Results:

Assembly	Democrat (incumbents in <b>bold</b> )		Republican (incumbents in <b>bold</b> )			
District	First Name	Last Name	First Name	Last Name	Winners	Party
1	<b>Fred</b>	<b>Thiele</b>	Heather	Collins	Thiele	D
2	Michael	Conroy	<b>Anthony</b>	<b>Palumbo</b>	Palumbo	R
3	Gregory	Schoen	<b>Dean</b>	<b>Murray</b>	Murray	R
4	<b>Steven</b>	<b>Englebright</b>	Steven	Weissbard	Englebright	D
5	Deborah	Slinkosky	<b>Alfred</b>	<b>Graf</b>	Graf	R
6	<b>Philip</b>	<b>Ramos</b>			Ramos	D
7	Nicholas	Gambini	<b>Andrew</b>	<b>Garbarino</b>	Gabarino	R
8	Richard	Macellaro	<b>Michael</b>	<b>Fitzpatrick</b>	Fitzpatrick	R
9	Brendan	Cunningham	<b>Joseph</b>	<b>Saladino</b>	Saladino	R
10	Edwin	Perez	<b>Chad</b>	<b>Lupinacci</b>	Lupinacci	R
11	<b>Kimberly</b>	<b>Jean-Pierre</b>	Shawn	Cullinane	Jean-Pierre	D
12	Spencer	Rumsey	<b>Andrew</b>	<b>Raia</b>	Raia	R
13	<b>Charles</b>	<b>Lavine</b>	Jeffrey	Vitale	Lavine	D
14	Michael	Reid	<b>David</b>	<b>McDonough</b>	McDonough	R
15	Dean	Hart	<b>Michael</b>	<b>Montesano</b>	Montesano	R
16	Anthony	D'Urso	Matthew	Varvaro	D'Urso	D
17	Matthew	Malin	<b>Thomas</b>	<b>McKevitt</b>	McKevitt	R
18	<b>Earlene</b>	<b>Hooper</b>	Cornelius	Smith	Hooper	D
19	Gary	Port	<b>Ed</b>	<b>Ra</b>	Ra	R
20	Anthony	Eramo	Melissa	Miller	Miller	R
21	Travis	Bourgeois	<b>Brian</b>	<b>Curran</b>	Curran	R
22	<b>Michaëlle</b>	<b>Solages</b>	Robert	Bogle	Solages	D
23	Stacey	Pheffer Amato	Alan	Zwirn	Pheffer-Amato	D
24	<b>David</b>	<b>Weprin</b>	Ira	Harris	Weprin	D
25	<b>Nily</b>	<b>Rozic</b>	Usman	Ali Chohan	Rozic	D
26	<b>Edward</b>	<b>Braunstein</b>	David	Bressler	Braunstein	D
27	<b>Michael</b>	<b>Simanowitz</b>			Simanowitz	D
28	<b>Andrew</b>	<b>Hevesi</b>			Hevesi	D
29	<b>Alicia</b>	<b>Hyndman</b>			Hyndman	D
30	Brian	Barnwell	Anthony	Nunziato	Barnwell	D
31	<b>Michele</b>	<b>Titus</b>			Titus	D
32	<b>Vivian</b>	<b>Cook</b>			Cook	D
33	Clyde	Vanel	Goldy-Francois	Wellington	Vanel	D
34	<b>Michael</b>	<b>DenDekker</b>			DenDekker	D
35	<b>Jeffrion</b>	<b>Aubry</b>			Aubry	D
36	<b>Aravella</b>	<b>Simotas</b>			Simotas	D
37	<b>Catherine</b>	<b>Nolan</b>			Nolan	D
38	<b>Michael</b>	<b>Miller</b>	Joseph	Maldonado	Miller	D
39	<b>Francisco</b>	<b>Moya</b>			Moya	D
40	<b>Ronald</b>	<b>Kim</b>	Miriam	Rodriguez	Kim	D
41	<b>Helene</b>	<b>Weinstein</b>	Ramona	Johndon	Weinstein	D
42	<b>Rodneyse</b>	<b>Bichotte</b>	Matthew	Williams	Bichotte	D
43	<b>Diana</b>	<b>Richardson</b>			Richardson	D
44	Robert	Carroll	Glenn	Nocera	Carroll	D
45	<b>Steven</b>	<b>Cymbrowitz</b>			Cymbrowitz	D
46	<b>Pamela</b>	<b>Harris</b>	Lucretia	Regina-Potter	Harris	D
47	<b>William</b>	<b>Colton</b>			Colton	D
48	<b>Dov</b>	<b>Hikind</b>			Hikind	D
49	<b>Peter</b>	<b>Abbate</b>	Rosemary	Mangino	Abbate	D
50	<b>Joseph</b>	<b>Lentol</b>			Lentol	D
51	<b>Felix</b>	<b>Ortiz</b>	Henry	Lallave	Ortiz	D
52	<b>Jo Anne</b>	<b>Simon</b>	Daniel	Ramos	Simon	D
53	<b>Maritza</b>	<b>Davila</b>			Davila	D
54	<b>Erik</b>	<b>Dilan</b>	Khorshed	Chowdhury	Dilan	D
55	<b>Latrice</b>	<b>Walker</b>	Berneda	Jackson	Walker	D
56	Tremaine	Wright			Wright	D
57	<b>Walter</b>	<b>Mosley</b>			Mosley	D
58	<b>N. Nick</b>	<b>Perry</b>			Perry	D
59	<b>Jaime</b>	<b>Williams</b>	Jeffrey	Ferretti	Williams	D
60	<b>Charles</b>	<b>Barron</b>			Barron	D
61	<b>Matthew</b>	<b>Titone</b>			Titone	D
62			Ron	Castorina	Castorina	R
63	<b>Michael</b>	<b>Cusick</b>			Cusick	D
64			Nichole	Malliotakis	Malliotakis	R
65	Yuh-Line	Niou	Bryan	Jung	Niou	D
66	<b>Deborah</b>	<b>Glick</b>			Glick	D
67	<b>Linda</b>	<b>Rosenthal</b>	Hyman	Drusin	Rosenthal	D
68	<b>Robert</b>	<b>Rodriguez</b>	Daby	Carreras	Rodriguez	D
69	<b>Daniel</b>	<b>O'Donnell</b>	Stephen	Garrin	O'Donnell	D
70	Inez	Dickens	Heather	Tarrant	Dickens	D
71	<b>Herman (Denny)</b>	<b>Farrell</b>	Vanessa	Stanback	Farrell	D
72	Carmen	De La Rosa			De La Rosa	D
73	<b>Dan</b>	<b>Quart</b>	Rebecca	Harary	Quart	D

continued on next page

**albany report, continued**

<b>Assembly</b>	<b>Democrat (incumbents in bold)</b>		<b>Republican (incumbents in bold)</b>			
District	First Name	Last Name	First Name	Last Name	<b>Winners</b>	<b>Party</b>
74	<b>Brian</b>	<b>Kavanagh</b>	Frank	Scala	Kavanagh	D
75	<b>Richard</b>	<b>Gottfried</b>	Joseph	Maffia	Gottfried	D
76	<b>Rebecca</b>	<b>Seawright</b>	Jonathan	Kostakopoulos	Seawright	D
77	<b>Latoya</b>	<b>Joyner</b>			Joyner	D
78	<b>José</b>	<b>Rivera</b>	Luana	Malavolta	Rivera	D
79	<b>Michael</b>	<b>Blake</b>			Blake	D
80	<b>Mark</b>	<b>Gjonaj</b>	Nicholas	Mirricco	Gjonaj	D
81	<b>Jeffrey</b>	<b>Dinowitz</b>			Dinowitz	D
82	<b>Michael</b>	<b>Benedetto</b>	Noel	Lopez	Benedetto	D
83	<b>Carl</b>	<b>Heastie</b>			Heastie	D
84	<b>Carmen</b>	<b>Arroyo</b>	Rosaline	Nieves	Arroyo	D
85	<b>Marcos</b>	<b>Crespo</b>	Janelle	King	Crespo	D
86	<b>Victor</b>	<b>Pichardo</b>			Pichardo	D
87	<b>Luis</b>	<b>Sepulveda</b>			Sepulveda	D
88	<b>Amy</b>	<b>Paulin</b>			Paulin	D
89	<b>J. Gary</b>	<b>Pretlow</b>			Pretlow	D
90	<b>Shelley</b>	<b>Mayer</b>			Mayer	D
91	<b>Steven</b>	<b>Otis</b>			Otis	D
92	<b>Thomas</b>	<b>Abinanti</b>			Abinanti	D
93	<b>David</b>	<b>Buchwald</b>			Buchwald	D
94	Brian	Higbie	Kevin	Byrne	Byrne	R
95	<b>Sandra</b>	<b>Galef</b>	Gregory	Purdy	Galef	D
96	<b>Kenneth</b>	<b>Zebrowski</b>	Matthew	Brennan	Zebrowski	D
97	<b>Ellen</b>	<b>Jaffee</b>	Joseph	Chabot	Jaffee	D
98	Aron	Wieder	<b>Karl</b>	<b>Brabenc</b>	Brabenc	R
99	<b>James</b>	<b>Skoufis</b>	Colin	Schmitt	Skoufis	D
100	<b>Aileen</b>	<b>Gunther</b>			Gunther	D
101	Arlene	Feldmeier	Brian	Miller	Miller	R
102			<b>Peter</b>	<b>Lopez</b>	Lopez	R
103	<b>Kevin</b>	<b>Cahill</b>			Cahill	D
104	<b>Frank</b>	<b>Skartados</b>			Skartados	D
105	Joseph	Torres	<b>Kieran</b>	<b>Lalor</b>	Lalor	R
106	<b>Didi</b>	<b>Barrett</b>	Terry	Sullivan	Barrett	D
107			<b>Steven</b>	<b>McLaughlin</b>	McLaughlin	R
108	<b>John</b>	<b>McDonald</b>			McDonald	D
109	<b>Patricia</b>	<b>Fahy</b>	Jesse	Calhoun	Fahy	D
110	<b>Phillip</b>	<b>Steck</b>	Tom	Murphy	Steck	D
111	<b>Angelo</b>	<b>Santabarbara</b>	Peter	Vroman	Santabarbara	D
112	Michael	Godlewski	Mary Beth	Walsh	Walsh	R
113	<b>Carrie</b>	<b>Woerner</b>	Christopher	Boyark	Woerner	D
114			<b>Daniel</b>	<b>Stec</b>	Stec	R
115	D. Billy	Jones	Kevin	Mulverhill	Jones	D
116	<b>Addie</b>	<b>Russell</b>	John	Byrne, III	Russell	D
117			<b>Kenneth</b>	<b>Blankenbush</b>	Blankenbush	R
118			<b>Marc</b>	<b>Butler</b>	Butler	R
119	<b>Anthony</b>	<b>Brindisi</b>			Brindisi	D
120			<b>William</b>	<b>Barclay</b>	Barclay	R
121	<b>William</b>	<b>Magee</b>	John	Salka	Magee	D
122			<b>Clifford</b>	<b>Crouch</b>	Crouch	R
123	<b>Donna</b>	<b>Lupardo</b>	Dorollo	Nixon, JR	Lupardo	D
124	Bill	Batrowny	<b>Christopher</b>	<b>Friend</b>	Friend	R
125	<b>Barbara</b>	<b>Lifton</b>	Herbert	Masser, JR	Lifton	D
126	Diane	Dwire	<b>Gary</b>	<b>Finch</b>	Finch	R
127	<b>Albert</b>	<b>Stirpe</b>	Vincent	Giordano	Stirpe	D
128	<b>Pamela</b>	<b>Hunter</b>			Hunter	D
129	<b>William</b>	<b>Magnarelli</b>			Magnarelli	D
130			<b>Bob</b>	<b>Oaks</b>	Oaks	R
131			<b>Brian</b>	<b>Kolb</b>	Kolb	R
132			<b>Philip</b>	<b>Palmesano</b>	Palmesano	R
133	Barbara	Baer	Joseph	Errigo	Errigo	R
134			<b>Peter</b>	<b>Lawrence</b>	Lawrence	R
135	Dorothy	Styk	<b>Mark</b>	<b>Johns</b>	Johns	R
136	<b>Joseph</b>	<b>Morelle</b>			Morelle	D
137	<b>David</b>	<b>Gantt</b>			Gantt	D
138	<b>Harry</b>	<b>Bronson</b>	Bob	Zinck	Bronson	D
139			<b>Stephen</b>	<b>Hawley</b>	Hawley	R
140	<b>Robin</b>	<b>Schimminger</b>	Danielle	Rotolo	Schimminger	D
141	<b>Crystal</b>	<b>Peoples-Stokes</b>	Ross	Kostecky	Peoples-Stokes	D
142	<b>Michael</b>	<b>Kearns</b>			Kearns	D
143	Monica	Wallace	Russell	Sugg	Wallace	D
144			Michael	Norris	Norris	R
145	<b>John</b>	<b>Ceretto</b>	Angelo	Morinello	Morinello	R
146	Steven	Meyer	<b>Raymond</b>	<b>Walter</b>	Walter	R
147			<b>David</b>	<b>DiPietro</b>	DiPietro	R
148			<b>Joseph</b>	<b>Giglio</b>	Giglio	R
149	<b>Sean</b>	<b>Ryan</b>	Arnold	Kacalski	Ryan	D
150	Jason	Perdue	<b>Andrew</b>	<b>Goodell</b>	Goodell	R





**46th Annual  
Family Medicine  
Refresher Course Conference**

**Thursday, March 2, 2017  
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*Presented by:*  
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An EOE m/f/d/v

*Right in New York City's backyard, Long Island is an in-demand location to live and work--near several major airports, home to the world-famous Hamptons beaches, over 60 vineyards, endless leisure activities, and some of the highest performing school districts in the country.*

**VIEW ONE**  
**SCREENING AND TREATMENT OF**  
**ADOLESCENT DEPRESSION**

By Alexandra Dembar; Kelly Kirpatrick, DO; and  
 Victor Sta. Ana, MD, MEd

**Background**

Major depressive disorder (MDD) in adolescence has a cumulative prevalence of up to 20% by the end of teenage years<sup>1</sup> and is the most common affective disorder of adolescence.<sup>2</sup> It can lead to increased morbidity and mortality, with depressed adolescents having increased risk of substance abuse, hospitalization, and suicide.<sup>3</sup> However, treatment rates remain low, thus suggesting a lack of standard practice around screening. This article will review best practices for screening in the primary care setting and equip family physicians with up-to-date information regarding treatment.

The prevalence of adolescent depression is high and the diagnosis carries significant co-morbidities.<sup>2,3,4,5</sup> 42% of depressed adolescents are later diagnosed with anxiety, conduct, or substance use disorders.<sup>6,7,8,9</sup> It is also associated with poor psychosocial outcomes including impaired academic and work performance, school dropout, substance use, pregnancy, and suicidal ideation.<sup>10</sup> Depressed adolescents are also at increased risk of suicide, a leading cause of death for adolescents ages 15 to 24,<sup>10</sup> and rates of adolescent suicide have tripled since the 1950s.<sup>11</sup>

Adolescent depression often continues into adulthood. 77.9% of adults receiving intensive mental health services had received a psychiatric diagnosis before the age of 18.<sup>12</sup> With such high prevalence of depression, the burden of disease is significant. The World Health Organization recognizes depression as the leading cause of disability worldwide.<sup>13</sup> Further, there is a significant association between symptom severity and utilization of mental health services, with severe depression being associated with higher healthcare utilization overall.<sup>14</sup> In light of these figures, we argue for early identification and treatment of adolescent depression,<sup>15</sup> and contend that the primary care setting is ideal for making the diagnosis and initiating treatment.

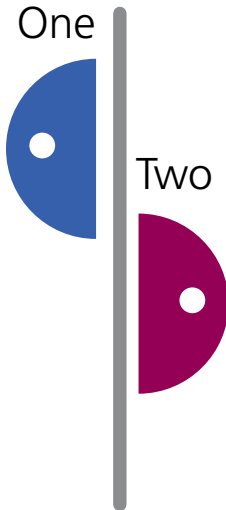
**Screening and Diagnosis**

Nearly 90% of suicidal youth have visited a primary care physician in the prior 12 months.<sup>16</sup> This underscores the importance of screening at routine visits. The 2015 AAP Bright Futures Guidelines recommend annual screening for all adolescents aged 11-21.<sup>17</sup>

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**VIEW TWO**  
**TOP THREE STRATEGIES TO DECREASE STRESS**  
**AND IMPROVE THE HEALTH OF ADOLESCENTS**

By Karen Kan, MD



As a family physician, I've always loved working with adolescents. Most of the time when I see them in the office, it is because they are sick, tired and moody and their parents have tried medications and counseling without results. They are not only medicalized as having something "wrong" with them, they are misunderstood and often malnourished.

Over the years, I've noticed a pattern with all of these troubled teens: they tend to be overly sensitive to environmental stimuli. They are labeled as having depression, anxiety or attention deficit disorder. As young children, they were often perceived as being "overly sensitive", "easily upset", or "unsociable". The ever-expanding DSM (Diagnostic and Statistical Manual of Mental Disorders) would have us believe that each of these children may need to be categorized into a mental illness that can then be treated with pharmaceuticals.

My observation, however, is that the medical model isn't working for the majority of these troubled teens. The medications do not make them feel well. Counseling may be helpful, but being seen as a mental health patient mars their self-esteem. They stay numb, anxious or depressed and their schoolwork and relationships suffer.

I'm here to tell you that there is another way.

Take Nate for example (pseudonym). His mother is a teacher and is considered weird and unconventional by her colleagues and friends. She brought Nate to me because of his failing grades, moodiness and "attention" issues. Unlike her colleagues, she refused to give into the notion that Nate needed to take stimulants for his symptoms. Luckily for Nate, his mother insisted that he eat a whole food diet and he wasn't allowed to buy processed food.

She wasn't sure what else to do, but I quickly deduced that Nate was extremely sensitive and was reacting to environmental triggers including food additives, electromagnetic radiation, and gluten. His mother was quick to put Nate on a gluten-free diet (he had no choice), reduce his exposure to electromagnetic fields in his bedroom and to any foods with additives such as food coloring. With the addition of an Omega 3 fish oil supplement<sup>1</sup>, Nate's behavior and attention issues markedly improved within three months. Eventually he graduated high school with honors and is thriving in a successful outdoor-based business.

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The USPSTF provides a Grade B recommendation for adolescent (ages 12-18) depression screening when adequate systems are in place to ensure accurate diagnosis, effective treatment and appropriate follow up.<sup>18</sup> Despite these recommendations, there is no universally preferred screening tool for adolescents. Two of the most studied are the Patient Health Questionnaire for Adolescents (PHQ-A) and the Beck Depression Inventory (BDI). Questionnaires offer reproducibility amongst providers and the ability to monitor symptoms longitudinally. There is no consensus regarding screening frequency, which typically occurs at the provider’s discretion.<sup>19</sup>

Adolescent MDD is diagnosed by fulfilling DSM-5 criteria for MDD.<sup>21</sup> These criteria are applicable to both adults and adolescents. A providers’ familiarity with these criteria should increase their comfort in diagnosing adolescent depression. Table 1 outlines diagnostic criteria for MDD.

## Treatment

As with adult depression, treatment of adolescent depression should include a safety assessment. Adolescents at increased risk should be referred to the most appropriate treatment setting – outpatient, inpatient, or residential facility, with preference toward the safest and least restrictive environment.<sup>21</sup> Treatment options include psychotherapy, pharmacotherapy, or both. Frequency, duration, and modality of treatment should be a shared decision between patients, physicians, and parents when parental involvement is feasible and does not endanger the adolescent.<sup>22</sup> Treatment considerations should include the degree of exposure to life stressors and presence of comorbidities such as anxiety or substance use disorders.<sup>22</sup> Parental involvement should be considered on a case-by-case basis. According to the New York Civil Liberties Union, adolescents can access mental health treatment, including medications, without parental consent when any of the following conditions exist (see Table 2).

**Table 1 - DSM-5 Diagnostic Criteria for Major Depressive Disorder<sup>20</sup>**

Five (or more) of the following symptoms have been present during the same 2-week period and represent a change from previous functioning; at least one of the symptoms is either (1) depressed mood or (2) loss of interest or pleasure. Symptoms must cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.
1. Depressed mood most of the day, nearly every day, as indicated by either subjective report (e.g., feels sad, empty, hopeless) or observation made by others (e.g., appears tearful). ( <b>Note:</b> In children and adolescents, depression may present as “irritable” mood.)
2. Markedly diminished interest or pleasure in all, or almost all, activities most of the day, nearly every day (as indicated by either subjective account or observation).
3. Significant weight loss when not dieting or weight gain (e.g., a change of more than 5% of body weight in a month), or decrease or increase in appetite nearly every day. ( <b>Note:</b> In children and adolescents, consider failure to make expected weight gain.)
4. Insomnia or hypersomnia nearly every day.
5. Psychomotor agitation or retardation nearly every day (observable by others, not merely subjective feelings of restlessness or being slowed down).
6. Fatigue or loss of energy nearly every day.
7. Feelings of worthlessness or excessive or inappropriate guilt (which may be delusional) nearly every day (not merely self-reproach or guilt about being sick).
8. Diminished ability to think or concentrate, or indecisiveness, nearly every day (either by subjective account or as observed by others).
9. Recurrent thoughts of death (not just fear of dying), recurrent suicidal ideation without a specific plan, or a suicide attempt or a specific plan for committing suicide.

continued on next page



**Table 2 - Conditions under which physicians can provide depression care without parental consent.<sup>22</sup>**

- A parent or guardian is not reasonably available to consent; or
- Parental involvement would be detrimental to the course of treatment; or
- The parent or guardian has refused to give consent and a physician determines that treatment is necessary and in the best interest of the minor

First-line psychotherapeutic interventions for adolescent MDD include cognitive-behavioral therapy (CBT) and interpersonal therapy for adolescents (IPT-A). Ongoing outpatient psychotherapy may be provided by psychologists, psychiatrists, clinical social workers or professional counselors. CBT is a brief intervention that targets depressed individuals' distorted negative perceptions of themselves, the world, and the future.<sup>22</sup> IPT-A is a brief intervention founded on the premise that there are several causes of depression, but independent of the cause, depression is associated with relationship disruptions.<sup>22</sup> IPT-A therefore focuses on current relationship problems associated with the adolescent's depression. Adolescents with long-standing severe interpersonal dysfunction, such as personality disorders, benefit less from this modality and alternative methods are recommended.<sup>22</sup> Group therapy for adolescent depression is not typically recommended unless it is a depression-focused CBT group.<sup>23</sup>

Pharmacotherapy is indicated for adolescents with moderate to severe symptoms. Conflicting data exist to support antidepressant efficacy in adolescents.<sup>24,25</sup> A significant concern is that antidepressants are associated with increased risk of suicidal ideation and behavior in adolescents. In their meta-analysis of randomized placebo-controlled trials, Hammad and Laughren found that pediatric antidepressant use is associated with a modest increase in risk of suicidality.<sup>26</sup> The FDA's boxed warning on SSRI antidepressants only serves to bolster primary care physicians' reticence to prescribe. However, numerous subsequent studies have concluded that relative to placebo antidepressants are efficacious for adolescent depression and that under typical circumstances benefits of therapy outweigh risks of suicidal ideation and attempt.<sup>27</sup> Fluoxetine and escitalopram are the only SSRIs approved for use in adolescents aged 12-17. Fluoxetine is approved for depression in children aged 8-18. The influential Treatment for Adolescent Depression Study (TADS) identified an enhanced treatment response and significant time x treatment interaction ( $p < .001$ ) in adolescents with moderate to severe depression treated with fluoxetine monotherapy or in combination with CBT.<sup>28</sup> Paroxetine was originally found to be well tolerated and effective for adolescent depression.<sup>29</sup> However, a 2015 reanalysis of the study data found paroxetine to lack clinical efficacy and increase harms including suicidal ideation and behavior, and therefore alternatives should be considered.<sup>30</sup>

Widespread implementation of the Patient Centered Medical Home (PCMH) has placed increased emphasis on care coordination.<sup>31</sup> Numerous collaborative care models (CCM) for adolescent depression have emerged,<sup>32</sup> and increasing evidence points to their efficacy and cost-effectiveness for depression.<sup>33</sup> CCMs employ a team-based approach, including a primary physician and a master's level depression care manager (DCM). After an initial engagement session with the DCM, patients continue treatment with psychotherapy, pharmacotherapy, or both. Psychotherapy is typically provided by the DCM and antidepressants, if indicated, are prescribed by the primary physician. Clinical response is typically monitored by the DCM using the PHQ-9,<sup>34</sup> with weekly case-load supervision from a psychiatrist or psychologist. Symptom response is used to guide therapy. Studies have found the CCM to be cost-effective with a 95% CI "far below the strictest willingness-to-pay thresholds."<sup>25</sup>

School-based interventions seem an effective method of reducing depressive symptoms in adolescents, however, a systematic review of school-based programs found that only half of the studies reported significant improvement in symptoms at follow-up.<sup>35</sup> New internet-based therapies for depression are available via computer or phone-based applications.<sup>36</sup> Most applications utilize CBT and IPT-A modalities. Adolescents may prefer internet-based over in-person sessions. However, privacy concerns and insurance reimbursement pose significant barriers to widespread adoption of these methods. Further research is also needed to determine these methods' efficacy.<sup>34</sup>

## Conclusion

Adolescent depression is common and carries significant comorbidities including increased risk for anxiety and substance use disorders, suicidal ideation, and negative psychosocial outcomes. Despite the significant burden of disease, rates of treatment remain low. Several validated depression-screening tools for adolescents exist and should be utilized. Adolescents seeking treatment for MDD may be offered psychotherapy, pharmacotherapy, or both and may receive treatment without parental consent under certain circumstances in the primary care setting.

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S M T W T F S

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Sheraton Kansas City Hotel at Crown Center

April 27-29

**AAFP Leadership Conference**

Sheraton Kansas City Hotel at Crown Center

May 22-23

**Family Medicine Congressional Conference**

Washington Court Hotel, Washington, DC

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In my opinion, one of the biggest health risk factors in adolescent health is exposure to electromagnetic radiation. Today's adolescents are not only exposed to electromagnetic radiation from computers, they are also exposed to microwave radiation in the form of Wi-Fi and cell phone radiation. I recently surveyed female teenage residents at a local boarding school. Ninety-eight percent said they slept with their cell phones on. In 2008 a study of male cell phone exposure noted significant decreases in sperm count, motility viability and normal morphology.<sup>2</sup> By simply turning off the phone, especially during sleep, I find that my adolescent patients are happier, less stressed and are much less tired and anxious.

Health concerns regarding studies that found genetic damage from constant low-level microwave radiation prompted Switzerland, the inventor of the World Wide Web, to take precautionary measures in their country. Swisscom now offers free fiber optic connections to schools to avoid the possibility of Wi-Fi radiation exposure in children.<sup>3</sup>

In my practice, the top three strategies to decrease stress and improve the health of adolescents include:

1. Limiting exposure to microwave and other electromagnetic radiation exposure. This means turning off all electronics in the bedroom, charging their cell phone in another room and turning off the Wi-Fi during sleep. An alternative is to put the smartphone on airplane mode if they insist on using it as an alarm.
2. Eating a whole food diet that includes plenty of healthy fat, including Omega 3s, and saturated fat from grass-fed animals to support adrenal gland function.<sup>4</sup> The fat soluble Vitamin A which is only found in animal food sources like meat and eggs is important for adrenal health and the immune system.<sup>5</sup>
3. Daily exposure to sun and nature is optimal, as is "Earthing" (connecting the body to the electromagnetic field of the earth) which has shown to balance and re-establish natural cortisol levels and reduce pain and stress.<sup>6</sup>

Although these strategies seem simple, they are the foundation of health for adolescents and adults alike who live in the modern world. More often than not, teens who adopt these and other natural strategies can reduce or eliminate psychiatric medications they have been taking with beneficial results.

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# ADOLESCENCE AND ALCOHOL USE DISORDERS

By Jenna Butner, MD; and Julie Edwards, RN

## Introduction & Prevalence

Adolescence is a vulnerable time during which the brain is susceptible to the effects of drugs, and most notably, alcohol, which is the drug most commonly used by adolescents (Johnston, 2009). Therefore, reducing exposure and misuse of alcohol has a large impact on prevention of harm as well as overall health promotion. Alcohol misuse carries with it a large burden of chronic disease and mortality, and the foundations for alcohol use disorder (AUD) are often laid during the vulnerable and formative adolescent years.

The 2014 National Survey on Drug Use and Health showed 2.7 percent of adolescents had progressed to having a diagnosable AUD. In addition, 6.8 percent of adolescents aged 12-17 reported binge drinking in the past month. The rates in the state of New York during 2010-2013 were higher, with 9.3 percent of adolescents reporting binge drinking within the past month (National Survey on Drug Use and Health, 2014).

Although the American Academy of Pediatrics (AAP) recommends that substance use disorder screening and accompanying anticipatory guidance should be a routine part of a primary care visit, family physicians often do not screen their adolescent patients due to barriers including time constraints, lack of knowledge about how to screen, and lack of training and experience with treating adolescent substance use disorders (Kulig, 2005). Many physicians screen only certain patients based on their clinical impressions, which has been shown to lead to an underestimation of patient alcohol use (Wilson, 2004). It is therefore imperative that family physicians screen all patients for alcohol misuse. According to the AAP, it is indicated to at least discuss alcohol with patients beginning at age 9, and to screen all patients by age 12 (Siqueira, 2015). The primary care setting provides an unparalleled opportunity to intervene in adolescent alcohol misuse in a timely and effective manner. Increasing the role of primary care providers in this conversation shifts the focus onto prevention rather than waiting until further specialized treatment is needed.

## Screening

It is imperative that family physicians use a validated, reliable, time-efficient, and developmentally appropriate screening tool such as the CRAFFT screen, developed by the Center for Adolescent Substance Abuse Research. The CRAFFT tool is used to simultaneously screen

adolescents for alcohol and drug use disorders. While there are many screening tools available, CRAFFT has the best evidence to support its use in primary care settings, and has been shown to be more effective than a focused interview (Pilowsky, 2013). The CRAFFT can be administered by any healthcare provider or self-administered by handout or computerized survey. Time constraint barriers are often cited as a reason why alcohol screening

is not done at every visit; however, a physician administered CRAFFT screening has been shown to take an average of 74 seconds to complete, and a self-administered screen takes only 49 seconds (Harris, 2014). See Figure 1.

If the answer to the three opening questions is “no”, that patient can be considered low risk for a substance use disorder. A score of 0-1 on the CRAFFT is considered a moderate risk, and a score of 2 or higher indicates that the adolescent is in the high-risk category. The CRAFFT tool integrates seamlessly into the SBIRT algorithm, allowing the physician to choose next actions based on these risk categories (Children’s Hospital Boston, 2009).

## SBIRT: Screening, Brief Intervention, and Referral to Treatment

The SBIRT algorithm is a research informed algorithm that allows clinicians to move through the necessary steps of screening, brief intervention and referral to treatment in a time efficient and evidence-based way. The SBIRT model was incited by an Institute of Medicine recommendation calling for community based screening for health risk behaviors. The initial step of SBIRT is the CRAFFT screening tool, as outlined above. The intervention that follows should be based on the level of risk which is defined by the scoring results of the CRAFFT screening (AAP, 2011). A low risk score merits a brief intervention consisting only of praise and encouragement for the patient’s healthy lifestyle and decisions around alcohol use. If the adolescent scores in the moderate risk category, the physician should offer a clear recommendation to abstain from alcohol, psycho-education about the health consequences of use, and affirmation of positive qualities or goals of the adolescent, consistent with motivational interviewing techniques (AAP, 2011). If the adolescent is high risk based on the screening results, further assessment and potentially a referral to more specialized treatment, is indicated. Parental or caregiver involvement should be promoted whenever possible with any risk category; however, if the adolescent requires referral to treatment it is especially important to include an adult to support the adolescent



## Figure 1:

### Part 1

The CRAFFT is performed in two parts. The first step entails asking the adolescent three questions about their behavior *in the past 12 months*:

1. Did you drink any alcohol (more than a few sips)?
2. Smoke any marijuana or hashish?
3. Use anything else to get high? (this could include illegal drugs, OTC and prescription drugs, and things that your sniff of “huff”)

### Part 2

If the answer to all three questions in part 1 are “no”, only the first “C” question needs to be asked. If the teen answers “yes” to one or more of the questions in part one, then proceed by asking all 6 of the CRAFFT questions.

C –	Have you ever ridden in a CAR driven by someone (including yourself) who was “high” or had been using alcohol or drugs?
R –	Do you ever use alcohol or drugs to RELAX, feel better about yourself, or fit in?
A –	Do you ever use alcohol/drugs while you are by yourself, ALONE?
F –	Do you ever FORGET things you did while using alcohol or drugs?
F –	Do your family or FRIENDS ever tell you that you should cut down on your drinking or drug use?
T –	Have you gotten into TROUBLE while you were using alcohol or drugs?

and contribute to safety planning (Pilowsky, 2013; Committee on Substance Abuse, 2011). If a referral is made, it is preferable to provide a structured handoff to the new provider. Routine follow up is recommended in order to promote patient and family engagement in care (Ozechowski, 2016).

While SBIRT has been shown to be an effective tool for patients of all ages, it is reasonable to consider the varying goals of this tool based on the developmental level of the patient. For younger adolescents, ages 12-14, the goal is complete abstinence from alcohol. For teens ages 15-17, the goal might be to increase detection and intervene on binge drinking, since it is the most common problematic behavior and the most significant indicator that a teen is progressing towards development of an AUD. Reducing binge drinking has the most preventive health benefit in this age group. For late adolescence, the goal is shifted towards identifying and initiating treatment of AUD (D. B. Clark, Moss, H. B., 2010).

### Referral to Treatment and Linkage to Care

Referral to treatment and linkage to care for adolescents with suspected or diagnosed AUD is essential. Historically, programs were created for adults with AUD and other substance use disorders (SUD) (Winters, 2011). Given the prevalence of adolescent SUDs, and the lack of adolescent-specific treatment services, the need for evidence-based, quality treatments for this population is evident. Another challenge to delivery of care is the presence of comorbid mental health disorders. In 2014, among adolescents with SUDs, 33% had a concurrent diagnosis of major depression (Quality, 2015). Based on the American Society of Addiction Medicine’s (ASAM) patient placement criteria, once an individual is professionally assessed, a certain level of care ensues. These levels

range on a continuum of service intensity including the following:

- 1) Early intervention services, which commonly consist of educational or brief interventions;
- 2) Outpatient treatment, in which adolescents typically attend treatment for several hours per week for a period dependent on progress and the treatment plan;
- 3) Intensive outpatient, in which adolescents attend treatment during the day, but live at home;
- 4) Residential/ inpatient treatment which includes programs that provide treatment services in a residential setting;
- 5) Medically managed intensive inpatient, which is most appropriate for adolescents whose substance use, biomedical, and emotional problems are so severe that they require 24-hour primary medical care for a length dependent on the adolescent’s progress (ASAM, 2016).

### Mental Health and Medical Care

This approach to AUD care in adolescents integrates multiple therapeutic models, both behavioral and medical. Family therapy seeks to reduce drug use and correct problematic behaviors utilizing the notion that family has the most profound impact (Szapocznik J, 1999). Individual and group therapy refers to one-on-one and group-therapist psychosocial sessions respectively, where group therapy is the most prevalent treatment modality in adolescent SUD treatment (Weiss, 2004). Within individual and group therapy, different modalities are utilized, with cognitive behavioral therapy (CBT) being the most commonly recognized. CBT attempts to change maladaptive behaviors by modifying thought processes, and encourages adolescents to practice self-regulation and



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recognize triggers for drug use (Waldron, 2001). Brief intervention and motivational interviewing are a patient-centered therapeutic approach using a patient-centered, “roll with resistance” style in assisting adolescents to explore their use patterns, develop healthy discrepancies in their thoughts around use, and assist in resolving ambivalences in healthy behaviors (Faggiani, et al, 2008). Lastly, contingency management encourages healthy behavior changes by rewarding and incentivizing adolescents for objective evidence of abstinence, such as a negative urine toxicology (Kaminer, et al, 2011).

Pharmacotherapy options for AUD in adolescents are limited. The three FDA approved medications for AUD in adults: disulfiram, acamprosate, and naltrexone, are not approved for use in pediatrics up to age 18. While not approved for adolescents, the goal of pharmacotherapy is to target alcohol craving, reinforcement, and comorbid mental health disorders. Disulfiram has been shown to increase abstinence in adolescents with AUD, for those with the motivation to maintain abstinence. Naltrexone and acamprosate help in reducing craving. Treatment of co-occurring substance use and mental health disorders is vital to the overall care of the adolescent. Education around the different pharmacotherapy options is important as drug-drug interactions exist between other prescribed medications or illicit substances (Clark, 2012).

In summary, the prevalence of AUD in adolescence is high, and the need for proper screening within the primary care setting is essential. Family and pediatric practitioners can be equipped with certain skills and tools to assess the possibility of at risk drinking or overt AUD in adolescence. Once a diagnosis of AUD or any SUD is made, it is critical to understand how to approach these patients, how to start addressing the most urgent matters within one’s scope of practice, and how to refer to specialty care, including addiction specialists, mental health practitioners, and case managers.

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# Adolescent-Centered Medical Home: Family Physicians Provide Transformational Healthcare

By Anna Jack, MD and Suzanne Piotrowski, MD



In 2008, the AAP released an update which includes seven key recommendations for the care of adolescent patients within the PCMH model.<sup>1</sup> Table 2 summarizes these recommendations and the authors proposed suggestions for practice.

What exactly is an adolescent PCMH? How, when, where and in what context adolescent PCMH care delivery occurs is continually evolving. School based health centers do not currently fit the National Committee for Quality Assurance (NCQA) model for PCMH, and therefore do not receive essential funding, but provide important and accessible medical services for adolescents.<sup>2</sup>

When deciding how best to provide care for adolescents, who better to ask than adolescents themselves? Brown University Family Medicine--Youth Advisory Board of the Adolescent Patient-Centered Medical Home Initiative met with adolescents to discuss their perspectives on important health issues and to provide feedback on various education and health care models/methods. Key themes discussed included confidentiality, creating an adolescent friendly environment, and communication about sources of stress such as future plans, work, school, family, body image and sexual health.<sup>3</sup> In Rochester, NY, the Be Healthy Be Successful Initiative met with over 2000 urban high school students in 200+ forums. Detailed and repetitive confidentiality discussions, same-day access to care, respectful physicians and staff, prompting questions regarding sensitive issues, and the use of technology for communication and education, were recurrent themes.<sup>4</sup>

It has been well demonstrated that adolescents receive more preventive care services in a PCMH model. These services include vaccinations, STI testing, contraception and preventive visits.<sup>5</sup> Access to health care in a time sensitive manner is developmentally congruent with the adolescent desire for instant gratification. Evening and weekend hours, geographically convenient locations and same-day appointments for procedures, services and resources help reduce barriers to care and address adolescent concerns in real time. Office staff reaching out to adolescents to schedule preventive care appointments and immunizations is an essential component of the adolescent PCMH model. Providing the Rapid Assessment for Adolescent Preventive Services (RAAPS) screening tool to every presenting adolescent patient is an effective, efficient and low cost

**I**n our personal and professional lives, adolescents and young adults can be both challenging and rewarding. As family physicians, we are uniquely qualified to care for adolescent patients with our focused training in prevention, behavioral health, social determinants of health, sports medicine, reproductive health, addiction medicine and family dynamics. Family medicine is also at the forefront of the transition to the Patient Centered Medical Home (PCMH) model of health care delivery. With the establishment of the PCMH model comes an opportunity to effectively, efficiently and compassionately care for adolescents and young adults. This article reviews the current literature on adolescent health care within this model and proposes ways to improve care of our adolescent patients.

The American Academy of Family Physicians, the American College of Physicians, the American Academy of Pediatrics (AAP), and the American Osteopathic Association released a policy statement in 2007 which describes the core characteristics of the Patient-Centered Medical Home, shown below in Table 1.

## Table 1:

### *Seven Core Characteristics of PCMH*

1. Personal physician for every patient
2. Physician-directed medical practice
3. Whole-person orientation
4. Coordinated and/or integrated care
5. Hallmarks: quality and safety
6. Enhanced access to care
7. Appropriate payment for providing PCMH care

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**Table 2:**

Key recommendations	Suggestions for practice
Adolescents should receive comprehensive, confidential, developmentally appropriate primary care within a medical home	Use of RAAPS form, integrated behavioral health, same day LARC, outreach for preventive services, normalize solo rooming of adolescents, after hours care
Adolescent self-reported data should be used to assess the quality of preventive care being provided	Focus groups, quality improvement projects, satisfaction surveys, retention of patients, use of services, community outreach
Research should be pursued on the effectiveness of the PCMH to provide health care to adolescents	Quality improvement projects, measurable outcomes built into EMR, budgeted data management positions
Adolescent access to care, continuity of care, preventive care and desired health outcomes should be rewarded by payers	
EMRs and billing should protect the confidentiality of care for adolescents and be used to provide improved care to adolescents	Permission required for proxy access to online portals, non-identifying after visit summaries and billing documentation
There should be a focus on the transition to adult health care, especially for adolescents with chronic health conditions	
Professionals caring for adolescents should receive continuing education on how best to care for adolescents	Interdisciplinary and inter-professional trainings on adolescent care, online modules

Key recommendations from the AAP Committee on Adolescents, “Achieving Quality Health Services for Adolescents”. *Pediatrics*. 2016 Jul 18; 138 (2): 1-12. Suggestions for practice from the authors.

way of identifying high risk behaviors and discussing sensitive issues. Designed for 9-24 year olds, RAAPS provide real-time individual information as well as serving as a practice data collection tool. The RAAPS, as well as other useful adolescent care information is available at [possibilitiesforchange.com](http://possibilitiesforchange.com).<sup>6</sup>

Mental health disorders can negatively affect our adolescent patients’ academic performance, family/peer relationships, and quality of life.<sup>7</sup> These adverse effects can occur quickly due to the rigorous pace of high school curriculums and an adolescents’ developmentally concentrated perception of time. Long-standing continuity, knowledge of family history and dynamics as well as built trust with the entire family uniquely positions family physicians to screen and treat adolescents who experience mental health distress and disorders. A family physician, who also cares for an adolescent patient’s family member, must detail and emphasize confidentiality to provide reassurance and pave the way for the teen’s candid disclosure. Knowledge of resources and referrals is critical to maintaining up-to-date diagnosis and treatment skills. New York family physicians have access to the Child and Adolescent Psychiatry for Primary Care, or CAP-PC program which provides pediatric psychiatry phone consultation, and can also assist in facilitating referrals to behavioral health specialists and pediatric psychiatrists. The CAP-PC website, [www.cappcny.org](http://www.cappcny.org), provides screening tools, webinars and other educational resources.<sup>8</sup>

Annual screening for depression in adolescent patients is recommended by the AAFP, AAP and the USPHSTF if connection to appropriate resources and treatments are readily available.<sup>9-11</sup> The PHQ-A depression screening tool<sup>12</sup> and the SCARED anxiety screening tool<sup>13</sup> have been validated for use with adolescent patients and are available at no cost online. While disorders such as ADHD and aggression have both medication and behavioral therapy as the first-line treatment, disorders such as depression and anxiety have behavioral therapy (i.e. CBT) as first-line treatment unless the disorder is severe and the benefits of treatment outweigh risk.<sup>14,15</sup> Access to CAP-PC, local community resources and summary treatment guidelines<sup>16</sup> keep family physicians up-to-date and confident in managing primary care adolescent psychiatric disorders.

Unintended/unplanned sexual encounters, pregnancy, sexually transmitted infections and violence can have significant, immediate and long-term negative effects on both male and female adolescent emotional/physical wellbeing, academic performance and family and peer relationships. Provision of STI screening and contraception including emergency contraception and long-acting contraception (LARC, IUD/implant) is essential in an adolescent PCMH. LARC is often accepted by teens when pain of procedure is appropriately minimized, ease of use is emphasized and the devices are shown to patients. Providing a confidential provision of testing and services as

well as confidential post-visit summary and insurance statements is critical. Protocols for rapid needs screening, equipment set-up and completion of consent forms is essential in a busy family practice office. These protocols provide efficient, high-quality, revenue-generating care. Online resources are readily available to educate both providers and patients and are included in the reference section.<sup>17</sup>

Exciting possibilities exist for future practice including group visits to provide adolescent education and healthcare provision, but have not yet been shown to be effective or desirable by research or community outreach.<sup>18</sup> The use of technology and internet platforms also shows promise, but is not yet a well demonstrated way to provide care to adolescents in a confidential and time sensitive manner.<sup>19</sup> As family physicians, we are uniquely positioned and qualified to implement practice improving measures as described by the adolescent PCMH, and in many ways are well on our way to making transformative changes for our adolescent patients.

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# HIV TESTING AND ADOLESCENTS: A REVIEW

By Roberto P. Santos, MD, MSCS, FAAP, AAHIVS; Mary Ellen Adams RN, ACRN; Martha L. Lepow, MD, FAAP

## BACKGROUND

Adolescent and young adults, ages 13-24 engage in sexual risky behaviors that may result in outcomes including human immunodeficiency virus infection (HIV). In the United States, 41% of high school students surveyed in 2014-15 had intercourse within the last three months. More than half of those students did not use condoms. In New York State 13-24 year olds accounted for 22% of 9,731 persons with new HIV infections.<sup>1</sup> Many of these young people were not aware of their diagnosis.

In 2010, New York State mandated that health care providers offer HIV testing to individuals ages 13-64 as part of routine care.<sup>2</sup> Since 2014 in an effort to simplify HIV testing, written informed consent is no longer required as long as verbal consent is obtained and documented in the patient's medical record.<sup>3</sup> Minors may request and consent to HIV testing without parental consent.<sup>4</sup> There is a paucity of data on compliance with this regulation. In a population based study in Monroe County, New York there was racial disparity in offers of HIV testing, where fewer Caucasians than Black or Latinos with the same risk factors, were offered testing.<sup>5</sup>

A recent study in an urban general pediatric clinic was done to determine the utilization of HIV tests among adolescents and young adults, and to evaluate barriers to testing as well as knowledge of HIV transmission. Of the 242 who completed the questionnaire, 47% of them were adolescents 15-17 years of age, 58% were women, and 47% were non-Hispanic blacks. In this particular study, HIV tests were offered to 46% of participants, but only 20% were actually tested. 88% knew about HIV as well as how it is transmitted and 62% knew that HIV testing is voluntary. The major reason given by most adolescents for not being tested was that they did not believe that they needed it.<sup>6</sup>

In June of 2014 Governor Cuomo detailed a three point plan to move us closer to end the epidemic in New York State by reducing the annual number of new HIV infections, from the estimated 3,000 to 750 cases by 2020.<sup>7</sup> The first point is to identify HIV infected persons who do not know their diagnosis through improved HIV testing. HIV infection may be silent for months or even years before progressing to symptomatic acquired immunodeficiency syndrome or AIDS. Second, newly identified HIV infected patients should be referred for treatment and follow up in order to improve their health as well as decrease transmission to others. The third recommendation is to facilitate access to pre-exposure prophylaxis for high risk persons to keep them HIV negative.

## QUESTIONS FROM PROVIDERS ABOUT HIV TESTING

There are numerous questions that have been raised by medical providers, including family practitioners, regarding the interpretation of the law and how to be successful in implementing this regulation as part of routine medical practice. In this article we hope to be able to clarify the regulations and practical recommendations in implementing them.

## WHY DO WE NEED UNIVERSAL SCREENING?

Persons with undiagnosed HIV infection account for a significant number of new HIV infections.<sup>8</sup> Testing based only on risk assessment of adolescents may miss HIV infections. Information about HIV should be given to all patients regardless of any risk factors and should include counseling about the purpose of testing, the importance of establishing early diagnosis, and the availability of treatment which prolongs normal life and avoids early complications leading to disability or death.<sup>4</sup> In addition, patients should be made aware of preventing HIV transmission to partners who are uninfected.<sup>7</sup>



## HOW IS CONSENT OBTAINED?

As previously mentioned, to facilitate streamlined HIV testing, written informed consent is no longer required. Since 2014, verbal informed consent can be obtained and documented in the patient's medical record.<sup>3,4</sup> There are seven points of information regarding HIV testing that must be provided to persons being asked to consent to an HIV test. These may be provided verbally, in writing, or electronically.<sup>4,9</sup> Furthermore, the medical provider caring for an adolescent less than 18 years of age can directly offer an HIV test to the patient if he/she has the capacity to give consent. Otherwise the offer for HIV testing should be made to a parent or guardian.<sup>4</sup>

## WILL INSURANCE COVER THE COST?

Medicaid, Medicare, and most private insurance will cover the cost of routine HIV screening tests. If a patient lacks medical insurance there are ways for patients to get free or anonymous HIV testing (1-800-541-AIDS).<sup>4</sup> For adolescents or young adults concerned about their privacy, attention needs to be given to how an insurance billing may send "explanation of benefits" information to the policy holder such as the parents or guardians. There are processes and procedures that can safeguard the privacy of our young patients.

## WHAT KIND OF HIV TEST IS RECOMMENDED FOR SCREENING?

Fourth generation HIV tests detect both antigens (i.e. p24 – the phase of infection before patients develop antibodies to HIV) and antibodies to HIV. This type of test is becoming more common and is now the recommended screening test.<sup>10</sup> For those adolescents not agreeable to having a blood test performed, there are resources for rapid oral or fingerstick HIV testing. However, these tests require a confirmatory blood test if the screening is positive.<sup>9</sup>

## WHAT IS THE PHYSICIAN'S RESPONSIBILITY FOR FOLLOW UP AFTER THE RESULTS ARE RECEIVED?

It is the responsibility of the ordering provider to be sure the patient gets the results of their HIV test and information regarding what these results mean. For a confirmed positive HIV test, the medical provider with the patient's consent, must facilitate an appointment with a Designated AIDS Center (DAC)<sup>11</sup> or with a pediatric/ adolescent HIV specialist for evaluation, treatment, additional support, and risk reduction education.

For a negative HIV result, resources should be provided regarding harm reduction education. For those with on-going risk for HIV infection referral for pre-exposure prophylaxis should be strongly encouraged.<sup>12</sup> These groups include men who have sex with men, multiple partners whose HIV status is unknown, those in serodiscordant relationships (i.e. the adolescent patient remains HIV negative and the sexual partner is HIV positive), and those involved in intravenous drug use.

## SUMMARY

At first glance, the requirement to offer adolescent HIV testing may seem to create an additional burden on an already busy primary care practice. The NY State Department of Health has created a website (<http://www.health.ny.gov/diseases/aids/providers/testing>) with user friendly resources that can guide medical providers through the process. The website includes patient education information on HIV, the HIV testing process, the provision of results, referral and treatment information if the test is positive, consultation information, including PrEP, if the test is negative, confidentiality, and PrEP-related billing. The HIV Testing Toolkit is available for use in the primary care office.<sup>9</sup>

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# Caring for Individuals with Anorexia Nervosa and Bulimia Nervosa in the Primary Care

By Erica Robinson, MD and Victor Fornari, MD

Primary Care Physicians (PCPs) are at the front line for the initial diagnosis of those with mental health disorders in their patients. A total of 13-20% of children and adolescents living in the United States experience a mental disorder in a given year.<sup>1</sup> Eating Disorders (EDs) are serious psychiatric illnesses that can lead to very severe medical complications and even death if left untreated. Often many practitioners are hesitant to treat eating disorders due to their high mortality rates.

This article seeks to demystify the treatment and aide in providers feeling more comfortable and confident treating these disorders by recommending practical guidelines on the diagnosis, associated medical complications, appropriate medical monitoring, and advice for referrals to various levels of care for patients with Anorexia Nervosa (AN) and Bulimia Nervosa (BN).

## Case Report:

Frannie, a 14-year-old girl comes to her PCP for her annual back to school physical exam. Her parents tell the doctor they are worried because their daughter has been complaining about stomachaches intermittently throughout the summer and not been eating much with them at meal times. They also report that she has not been going to the beach with friends and instead has spent most of the summer taking their dogs on long walks. Frannie reports that she feels constantly bloated and eating just makes it worse. Upon further questioning she reports that she hasn't wanted to go to the beach because she is embarrassed to look so fat in a swimsuit with her friends. She reports that she has been going on long runs to try and help her lose a little weight before school starts. On exam Frannie is a thin appearing 5-foot tall girl weighing 88 lbs (12th percentile), which is a decrease from last years exam where she weighed 115 lbs (75th percentile). BP is 92/70 and HR is 44. She appears pale with thinning hair. She is withdrawn with limited eye contact for most of the interview. She states that she has been feeling depressed for the past year and within the past couple months has thought about not wanting to live anymore but has not thought specifically about a plan.

**DSM -5 Diagnostic Criteria:** The prevalence of AN in young woman is 0.5% while BN affects 1-5% of young women.<sup>1</sup> Overall 5-10% of EDs occur in males and while eating disorders are being seen in increasingly younger ages, children under 12 years of age represent only 4% of the total hospital admissions for EDs.<sup>1,2</sup> While previously thought of as a Caucasian, middle or upper middle class illness, we now know eating disorders occur amongst all ages, races, socioeconomic class, as well as in both industrialized and non-industrialized societies.<sup>4</sup>



# Anorexia Nervosa and Emergency Care Setting

The Diagnostic and Statistic Manual-5 (DSM-5) is the accepted diagnostic system for both children and adults. Modifications of criteria from DSM-IV aimed to widen criteria for AN and BN to be more inclusive in hopes of leading to earlier recognition and treatment for these disorders. AN is characterized as an intentional restriction of calories causing a significantly low body weight, a fear of gaining weight, and a disturbed body image. BN is characterized as recurrent episodes of binge eating followed by compensatory behaviors to avoid gaining weight. Refer to tables 1 and 2 for diagnostic criteria.

## Medical Complications of Eating

**disorders:** When a discrepancy between energy intake and need exists, a hypometabolic state is created and is responsible for many of the symptoms and complications seen in EDs.<sup>4</sup> The following complications are those most commonly seen in both restrictive and bingeing and purging eating disorders:

## Electrolyte Disturbances and Cardiovascular Abnormalities

In patients with BN it is especially important to check electrolytes. Vomiting or chronic laxative abuse can cause a hypochloremic, hypokalemic metabolic alkalosis, which can cause cardiac arrhythmia and sudden death. Of note, acute laxative use can often cause a metabolic acidosis. When following electrolyte levels in patients with BN, with vomiting one typically sees CO<sub>2</sub> rise first, followed by a decrease in Cl<sup>-</sup> second, and a decrease in K<sup>+</sup> last. Generally hypokalemia is taken very seriously as it is the most common medical cause of mortality in patients with ED due to arrhythmias. As such, admission to the hospital is recommended when potassium levels are lesser than or equal to 3.0 mmol/L.<sup>4</sup>

In those with AN electrolyte disturbances are more rare, and when they do occur tend to not be due to malnutrition but instead fluid manipulation. This can be seen as

hypernatremia caused by patients limiting their fluid intake to appear as thin as possible or hyponatremia because of water loading done to either help suppress their appetite or done to add pounds for scale checks. Hyponatremia should be viewed as the more dangerous due to its association with seizures that can even result in coma.<sup>4</sup>

Cardiovascular changes are also associated with AN and BN. Malnutrition can lead to myocardial atrophy and decreased cardiac output. In addition to this the bradycardia and orthostatic hypotension associated with AN are considered evidence of cardiovascular instability due to hypometabolism and increased vagal tone.<sup>5</sup> This is an important factor to consider when rehydrating an ED patient, as aggressive hydration should be avoided since it may lead to fluid overload, edema, and CHF.

Electrolyte and cardiovascular abnormalities must also be considered as a complication of treatment itself. Refeeding syndrome is a potentially lethal condition that can be defined as severe electrolyte and fluid shifts associated with metabolic abnormalities in malnourished patients undergoing refeeding, which can lead to cardiac and respiratory failure.<sup>6</sup> Clinical features include fluid balance abnormalities, abnormal

**Table 1: DSM 5 Diagnostic Criteria for Anorexia Nervosa**

<b>Criterion A:</b> Intentional restriction of calories, leading to a significantly low body weight	
<b>Criterion B:</b> Intense fear of gaining weight or of becoming fat	
<b>Criterion C:</b> Disturbance in self perceived weight or shape, strong association with self worth, or lack of recognition of the seriousness of the current low body weight	
<b>Anorexia Nervosa Subtypes</b>	
<b>Restricting Type</b>	<b>Binge Eating/Purging Type</b>
During the past 3 months no purging behaviors (vomiting, laxatives, diuretics, enemas, etc)	During past three months they have engaged in purging behaviors
Weight loss accomplished through dieting, fasting, and/or intense exercise	
<b>Severity Scale</b>	
Mild: BMI ≥ 17 kg/m <sup>2</sup> Moderate: BMI 16–16.99 kg/m <sup>2</sup> Severe: BMI 15–15.99 kg/m <sup>2</sup> Extreme: BMI < 15 kg/m <sup>2</sup>	

continued next page

**Table 2: DSM 5 Criteria for Bulimia Nervosa**

Recurrent episodes of binge eating. Binge eating characterized by: <ul style="list-style-type: none"> <li>• Eating, in a discrete period of time, an amount of food that is larger than what most individuals would eat in similar circumstances</li> <li>• A sense of lack of control over eating during the episode</li> </ul>
Recurrent inappropriate compensatory behaviors in order to prevent weight gain, such as: vomiting, laxatives, diuretics, fasting, or excessive exercise
The binge eating and inappropriate compensatory behaviors both occur at least once a week for 3 months
Self worth heavily influenced by body shape and weight
Patient does not meet anorexia nervosa criteria
<b>Severity Scale</b>
Mild: An average of 1–3 episodes of compensatory behaviors per week. Moderate: An average of 4–7 episodes of compensatory behaviors per week. Severe: An average of 8–13 episodes of compensatory behaviors per week. Extreme: An average of 14 or more episodes of compensatory behaviors per week.

glucose metabolism, hypophosphatemia, hypomagnesemia, and hypokalemia. Patients with AN are at an increased risk for refeeding syndrome as compared to BN patients. While not all patients who are re-fed develop these dangerous complications, it is important for the healthcare team to be aware of the condition and anticipate problems to help minimize complications.<sup>6</sup> Risk factors for refeeding syndrome include severe emaciation, hypophosphatemia, NGT feeds, etc. If risk factors are noted in spite of the severity of malnutrition, often it is necessary to re-start patients on a low level of kcals and to increase it slowly. The hospital is the safest place to refeed a patient at risk of this deadly disorder.

*Endocrine Disorders and Osteopenia/osteoporosis*

In response to the malnutrition state that develops in AN, several hormonal changes occur in order to preserve energy.<sup>7</sup> Thyroid function panel tests usually show a low to normal TSH level, decreased T4 levels (lower limits of normal), and a decreased T3 level (below normal), known as euthyroid sick syndrome. It is important to not mistakenly treat an ED patient for hypothyroidism with exogenous thyroid hormone, as that would exacerbate weight loss. Refeeding itself will correct these abnormalities.

Malnutrition also leads to a hypogonadotropic hypogonadism with decreased levels of LH, FSH, and estradiol. The amenorrhea that results in AN leads to osteopenia and osteoporosis.<sup>8</sup> In those with AN, bone density falls during the time that the patient has amenorrhea, causing problems from both the lack of expected increase during adolescent years and the ongoing decreases that are similar to those that occur in menopause. Even when individuals resume normal eating with normal weight and a return of menses they will never fully be able to make up what was lost during their amenorrhea.<sup>9</sup> It is therefore important during treatment to focus on a return of menses as quickly as possible. This generally occurs around the return of 10% below ideal body weight. Importantly, for

those patients who were overweight, lost a significant amount of weight and are still at or above ideal body weight, return of menses may not occur until they reach a weight that is much higher than 90% of ideal body weight.<sup>4</sup>

*Gastrointestinal Abnormalities*

Most adolescents are guarded about their desire for weight loss at least upon initial presentation. As a result of this it is not unusual for ED patient to instead report early satiety, nausea, or abdominal pain as the main cause for decreased dietary intake. Gastrointestinal issues may occur at some point during the course of the illness. In AN there may be some gastrointestinal symptoms related to gastric motility including delayed gastric emptying, constipation, abdominal pain, diarrhea, nausea, and rarely vomiting.<sup>10</sup> These symptoms may interfere with weight gain but are very rarely dangerous. In BN, gastrointestinal symptoms are usually due to esophageal irritation with potential long-term risk of squamous cell dysplasia and esophageal cancer. Additionally, Mallory Weiss tears can be seen and place patients at increased risk of Boerhaave’s syndrome and esophageal rupture.

*Hematological Complications*

Hematologic complications like anemia, neutropenia, and thrombocytopenia can also occur with the malnourished AN patient.<sup>7</sup> The anemia seen is a normochromic normocytic anemia and amenorrhea is protective against its development. Rarely, low WBC and platelets can be seen. In this situation a hematology consult should be done to rule out malignancy.<sup>4</sup>

*Other Medical Complications*

Patients with EDs rarely have pulmonary complications such as spontaneous pneumothorax or aspiration pneumonia, or renal complications, such as prerenal azotemia or fanconi’s syndrome. Aside from the hyponatremic seizures previously discussed,



neurological complications such as peripheral neuropathy and atrophy of the brain have also been described in literature. These changes are generally considered reversible but there is some evidence that the effects of malnutrition can be long lasting.<sup>11</sup>

**Medical Evaluation by the Primary Care Physician:** The medical work up recommended for patients with EDs is directly tied to the medical complications previously discussed and should be done to assess for medical stability at the time of presentation as well as to rule out other causes of malnutrition.<sup>12</sup> Laboratory tests should be performed on all patients at presentation and include a complete blood count (CBC), comprehensive metabolic panel (CMP) and thyroid hormone studies. Amenorrheic patients should be tested for levels of LH, FSH, estradiol, prolactin, and in those sexually active a pregnancy test should be performed. Those patients who have been amenorrheic for longer than 6 months may undergo bone density testing. In bradycardic patients or patients with a history of significant vomiting an ECG should be performed. In patients where the cause of malnutrition is not completely clear additional tests

such as brain MRI, celiac screen, erythrocyte sedimentation rate or endoscopy studies may be performed. A summary of the suggested medical evaluation can be seen in Table 3.

**Hospital Admission and Discharge:** After initial presentation and medical work up it is important for a PCP to consider the criteria for the correct level of care. Most literature concurs that admission is necessary for those less than 75% of ideal body weight and/or with a heart rate of less than 40bpm.<sup>13</sup> Other medical, nutritional and psychological factors to be considered are outlined in the version published by the Society for Adolescent Health and Medicine and are listed in Table 4.

**Psychiatric Referral:** All patients that do not meet criteria for inpatient hospitalization should be referred for immediate psychiatric evaluation. Early psychiatric evaluation and intervention are extremely important, as without being properly treated the medical complications discussed above are more likely to develop, continue to occur, or worsen. PCPs can refer patients for an outpatient initial consultation to help determine the appropriate level

<b>Table 3: Initial Laboratory Evaluation</b>			
<i>All Patients</i>	<i>Amenorrheic Patients</i>	<i>Amenorrheic For More Than 6 months</i>	<i>Bradycardic Patients or Those with Significant Vomiting</i>
CBC	LH, FSH	DEXA Scan	ECG
BMP	Estradiol		
Thyroid Function Panel	Prolactin		
	*Pregnancy test		

\*If sexually active female

<b>Table 4: Indications for Hospitalization in an Adolescent with an Eating Disorder</b>
Severe Malnutrition (weight $\leq$ 75% average body weight for age, sex, and height)
Dehydration
Electrolyte Disturbances (hypokalemia, hyponatremia, hypophosphatemia)
Cardiac Dysarrhythmia
Physiologic Instability <ul style="list-style-type: none"> <li>• Severe bradycardia (HR &lt; 50 beats/min daytime; &lt;45 beats/min at night)</li> <li>• Hypotension (&lt;80/50 mmHg)</li> <li>• Hypothermia (body temp &lt;96°F)</li> <li>• Orthostatic Changes in pulse (&gt;20 beats per minute) or blood pressure (&gt;10mmHg)</li> </ul>
Arrested growth and development
Failure of outpatient treatment
Acute food refusal
Uncontrollable bingeing and purging
Acute Medical Complications of Malnutrition (syncope, seizures, cardiac failure, pancreatitis, etc)
Acute Psychiatric Emergencies (suicidal ideation, acute psychosis)
Comorbid Diagnosis that Interferes with the Treatment of the Eating Disorder (severe depression, obsessive compulsive disorder, severe family dysfunction)

\*Adapted from the Society for Adolescent Health and Medicine

continued on next page

of care, varying from outpatient day treatment programs to inpatient psychiatric eating disorder programs, to residential treatment programs. Another factor that may influence the choice of a care facility would be if a patient had suicidal ideation. In that situation it would be necessary for the patient to go to a psychiatric inpatient unit and eventually transfer to a more eating disorder focused treatment plan. In addition to this, residential treatment centers can be great for patients who have failed outpatient treatment. The psychiatric evidence based treatment therapy for AN is Family Based Therapy (FBT) while for BN it is enhanced Cognitive Behavioral Therapy (CBT-e).<sup>13,14</sup> There is no FDA approved pharmacological treatment for AN but there has been some evidence of atypical antipsychotics, such as olanzapine being helpful in the acute stage in severe cases and in SSRIs during the maintenance phase.<sup>4</sup> Fluoxetine is the only FDA approved medication for BN.

The treatment of these complex patients requires a team treatment setting. A primary care physician, adolescent medicine specialist, therapist (SW, PhD, etc.), psychiatrist, nutritionist, and family must all work together for the patient's best interest. A PCP may also need to involve CPS if they discover that parents have failed to establish psychiatric care or medical follow up for their child.<sup>4</sup>

**Recommendations:** Primary care physicians can play a primary and critical role in ED patient's lives by initially recognizing signs of an ED, completing a medical laboratory workup, and managing the medical complications of the ED. All patients that do not meet criteria for inpatient hospitalization should be referred for psychiatric evaluation. In addition to this it is important for PCPs to continue to monitor the medical status of their patients while outpatient treatment proceeds and can help work with the treatment team to facilitate transfer to a higher level of care when necessary.<sup>4</sup>

### Case Report Conclusion:

Frannie met criteria for hospitalization due to her being less than 75% of her ideal body weight, her resting heart rate under 50bpm, and her comorbid depression with passive suicidal ideation. As an inpatient in the hospital she was medically worked up and seen by the inpatient child psychiatry team who recommended that she attend the eating disorder day program at the hospital for treatment.

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# CHOOSING TEEN INFLUENCE OVER PEER PRESSURE

By Sabina A. Rebis MD

Often viewed as an exercise in rebellion by doting parents, adolescence or the transition from obedient child to eye-rolling teen is not just a rite of passage. It is a critical period that may play a significant role in reinforcing habits kids pick up during these years. This stage in life is characterized by rapid cortical development, remodeling of neurological pathways, and the synaptic rearrangements of neurons and shifts in neurotransmitter signaling that aid in habit formation.

In broader terms, a critical period in life is a slice of time during the life span when humans are most sensitive to the influence of the surrounding environment. For anyone who has ever taken a psychology course, Lorenz's line of baby geese come to mind. Lorenz was able to get a line of followers without the perks of social media technology. He was able to pinpoint a critical period in these birds (12 to 17 hours after their birth) at a time when they were most vulnerable and therefore able to imprint him as their mother.

During such critical periods in life the frontal cortex, the part of the brain that contributes to decision-making, goal setting, reasoning, and impulse control undergoes major pruning, or 'clean-up'.<sup>2</sup> Certain signaling pathways are weeded out, while others are reinforced. Practice makes perfect even in the context of Mother Nature. Pathways that are reinforced are the ones that are most used, while those that are idle are weeded out.

With age, the critical period window becomes wider. As it widens, development becomes more complex leaving less time to adjust future behavior since less of these critical periods are left in the unforeseeable future. Two major critical periods in childhood are 6-18 months, when infants develop their core attachment to caretakers and 12-30 months when language development speeds up.<sup>4</sup> In the final major critical period known to date as adolescence, cortical pruning starts right before the teen years begin and continues into the twenties.<sup>3</sup> During early critical periods of cortical reorganization in childhood, development takes place at the most basic level. Adolescence may be the gateway to more advanced

intervention in habit and thought formation, as basic skills are already in place and there is a foundation of understanding.

Yet across the world, there is a rush to self-sufficiency. Many young adults are ushered into lifestyles based on tradition even before the frontal cortex is fully developed. Globally, many societies expect the crossover from childhood to adulthood to occur seamlessly, ignoring the in-between period.<sup>1</sup> The privilege of testing boundaries is moot as roles are often predetermined by established traditions that call on young adults to take on responsibilities beyond their years. Expectations to mature quickly lead to neglect of the potential for learning when the brain is still malleable during this time. The opportunity to take a stab at significant changes in rewiring thought processes may be inadvertently surpassed.

One dilemma is that many adolescents are caught in a net of determinants that place social values on a pedestal over personal choices, thoughts and actions. These determinants include the immediate environments: interactions with peers and family members, the values of the neighborhood and community, and common goals. Teens use these determinants to guide them in developing an adult persona. How they use them depends on whether the scale tips in favor of risk or protective factors.

Age and gender in a particular setting are risk factors. A thirteen year old male in a community where boys are pressured to join a gang, or a fifteen year old girl in a school where the height on the totem pole is determined by the number of sexual experiences are at risk teens in environments that can pre-determine outcomes if protective factors are not in place. Risk factors also include low income, prevalence of drugs, low levels of education, and a lack of self-efficacy.

In contrast, protective factors that shield at risk kids from determinants that may eventually result in negative lifelong consequences include access to education, belief in acquiring control of one's circumstances, and strong relationships with friends and family. According to psychologists, protective factors can overshadow risk factors during the critical

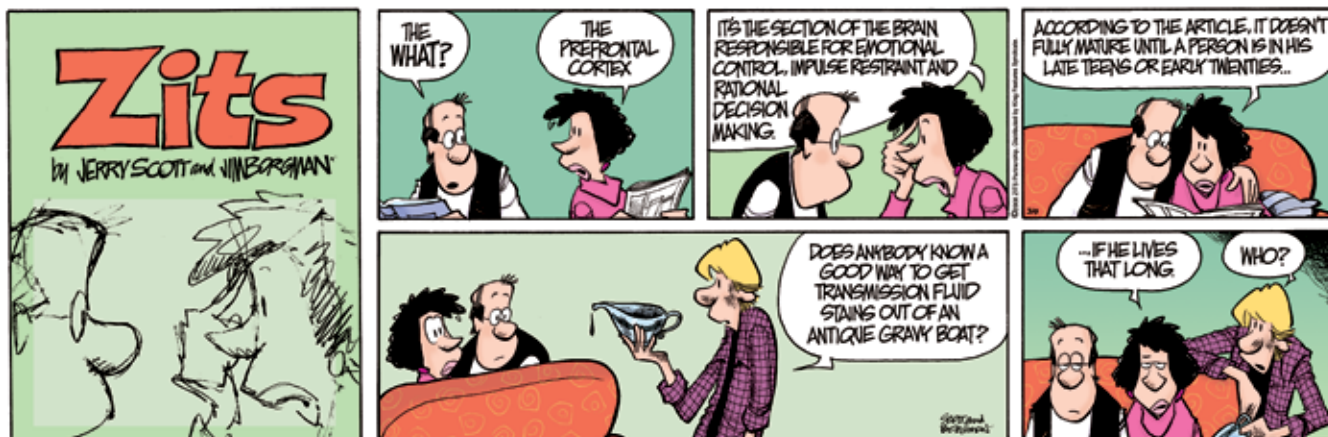
period in adolescence. In other words, akin to Lorenz's geese and the imprinting theory, teens and young adults search for influencers to attach to. If those influencers are solid, protective variables override risk factors in at-risk environments and a different neurological infrastructure may develop in comparison to one that might have developed if the protective factors were not in place.

This is what interventional programs are now focusing on. In the Global Strategy for Women's, Children's and Adolescents' Health, a novel initiative launched in 2015, adolescents are viewed as a unique population with separate needs.<sup>5</sup> Interventional programs may be most effective during the critical period when biology favors influence. Utilizing protective factors, like effective counseling programs and accomplished individuals from similar communities, to overcome maladaptive ways of thinking and behavior may be beneficial in empowering adolescents to facilitate change.

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# MANAGING CHRONIC ILLNESS IN THE ADOLESCENT

By Nehizena Aihie

Growing up, nothing seems more potentially traumatizing than embarking on the journey of adolescence. It is a rite of passage that we all must endure, but what happens when that voyage with its already turbulent waters, takes an even more tumultuous turn? Diagnosis of a chronic illness in an adolescent can be devastating for both the adolescent and their family. There are about 2 million adolescents in the United States with a chronic health condition that results in limitation of daily activities or disability. Asthma and other chronic respiratory tract diseases, musculoskeletal disorders, and heart disease are the most common chronic illnesses affecting adolescents.<sup>1</sup>

## Taking Charge

Patient-centered-healthcare is of the utmost importance when approaching an adolescent with a chronic illness. Studies have shown that the level of patient involvement in creating a treatment plan, the time spent with both patient and parent, as well as other physician behaviors all directly correlate with adherence to treatment and good outcomes.<sup>2,4</sup> Adolescence is a time where the patient may not feel in control of his or her own destiny while simultaneously trying to discover who they are in the world, so it is extremely important that as health care providers we involve our adolescent patients in any decisions that need to be made on their behalf. This may mean allowing our patient to be a self-advocate and assert his/her opinions whenever appropriate, an important rite of passage and self-esteem builder. Creating a space for self-advocacy can come in the form of allowing the patient to be seen alone for the majority of the visit, and then inviting the parent/guardian to come in at the end of the visit to ask any additional questions that they may have. Encouraging this patient autonomy will prove most beneficial as the adolescent transitions into adulthood and has experience making informed decisions about their health care.

## Building Knowledge

Intellectualization is one of the less primitive but not quite mature defense mechanisms. As health care providers we should encourage this defense mechanism within reason, keeping a look out for signs of the patient possibly becoming obsessed or consumed with the implications of their disease. Patients should be informed of all of the information about their illness, especially in the beginning when everything is new and frightening. It may seem instinctive to shield the patient from knowing everything, but keeping the adolescent patient well informed is important because it helps with self-esteem and compliance. Physicians should encourage their adolescent patients to learn more about their disease, offering appropriate literature, pamphlets and other resources and following up in subsequent visits to make sure they have read and understood everything. Sometimes our patients are privy to the newest or latest experimental treatments, so it is important to do your homework as well. Opening the conversation about new treatment options is a great way to gauge how much your patient knows about their illness, what misconceptions or misinformation they may be holding on to, as well as to assess how they are dealing with and feeling about their illness. Encouraging the patient to learn about all different treatment options helps further integrate them into the decision making process, which helps maintain patient compliance.

Before prescribing medications patients should know the purpose of all potential medicines and how to use them. Patients of all ages cite not having a thorough enough conversation with their physician or not knowing enough about a particular medication as the reason they were not compliant in taking it. It is important that the adolescent know what they are taking, why they are taking it, and what it may be doing to their ever changing body.

It is also important that we discuss prognosis and potential sequelae of a diagnosis with our affected adolescent. In a time in their lives when things can seemingly be coming out of nowhere all at once, it is important that we make an increased effort not to blindsides our adolescent patient. Providing education on which aspects of their life and bodies may be impacted by their illness is an important step in proactively handling the difficult events that may arise due to their disease.

## Staying Healthy

The 4 most common reasons for noncompliance with a medical regimen are cost, side effects, forgetfulness, and the lessening or subsiding of symptoms for a period of time which leads a patient to think that they no longer need treatment.<sup>3,7,8</sup> These are very common obstacles that physicians face when trying to ensure patient compliance, and can be even greater when faced by an adolescent. The financial burden of a chronically ill adolescent will fall on the entire family. Shopping around for the most cost effective treatment and medications, when possible, may help lessen the burden. It is also important to be sensitive to the family's culture. For some, it may be taboo for a family to speak up because they cannot afford a certain treatment.

Unwanted Side effects are another common reason for non-compliance.<sup>7,8</sup> It is important that you provide your patients with all of the details of what may happen when they take a certain drug and how despite some unwanted side effects, the drugs are fighting a completely different and ever important battle. Also recommending safe home remedies or other treatments to minimize the side effects may be effective in preventing noncompliance.

Adolescence can bring along with it petulance, defiance, and overall indifference. As physicians we have to create our treatment plans with these things in mind, and when possible, heavily involve the parents to make sure they are monitoring and encouraging their adolescent to remain healthy. Stepping up a rewards system or a checks and balances system within a household is a great way to minimize forgetfulness, highlight the importance of being consistent with medications and make sure everyone is on board with compliance.

## Maintaining Mental Health

As family physicians we have to remember the biopsychosocial approach in delivering optimum care to our patients. That means always remembering to take a detailed social history from our patients and remembering to check for signs of depression. Having a terminal or chronic illness has been identified as a risk factor for developing depression in adolescents.<sup>5,6</sup> We should strive to help the adolescent maintain as near normal a life as possible by pursuing his or her personal goals academically, socially, and physically. Allowing the adolescent to stay in school for as long as possible or until completion is extremely important as it provides a sense of normalcy for that patient. If it's not possible for the patient to be in school, it is still important that the adolescent be able to connect with others of similar age through social activities, interest clubs, sports, or camps, allowing time and space for making friends of his/ her own choosing.

Assessing the adolescent patient's support system is another important part of the biopsychosocial model. Family and friends are a big part of the healthcare team for our patients because they take care and take note of our patient when we are not there. It is essential to make sure we are also speaking about them and with them in the context of our patient. Another tool that may help our adolescent patient is joining support groups with other people who share their illness, especially those their own age. Providing local resources can help our patients connect with others who are like them and provide a safe place to let out their frustrations about the implications of living with a chronic disease.

We have to remember that the illnesses we discuss with our patients for mere moments at a time during each visit, consume them and their families all the time. Their chronic illness makes this milestone time if their life much more complicated and convoluted, but with the correct approach and allowances, we can still help cultivate productive, happy, and well-balanced adolescents.

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# PREPARTICIPATION CARDIOVASCULAR ADOLESCENT ATHLETES

By Justin Conway, MD



## BACKGROUND

Exercise and sports participation lead to many health benefits for adolescents but do not come without risk. In rare cases, physical activity can trigger sudden cardiac arrest in athletes with structural and electrical cardiac abnormalities, and the underlying conditions that predispose athletes to these tragic events are often asymptomatic prior to a sudden cardiac arrest. Thus, efforts to identify athletes at risk for sudden cardiac arrest and death (SCA/D) are of paramount importance and preparticipation cardiovascular screening is a key strategy to achieve this. Screening is most often performed by an athlete's primary care physician, and, thus, is a critical skill for family physicians.

Recent epidemiological studies in the United States have shown that the rate of SCA/D is approximately 1 in 80,000 high school athletes and 1 in 50,000 college athletes.<sup>1</sup> SCA/D is triggered by exertion in 56-80% of cases and the risk for athletes is up to 2.8 times higher than non-athletes.<sup>2,3</sup> SCA/D has consistently been found to be more common in male and African American athletes.<sup>4,5</sup> Risk also varies by sport, with male basketball and football participants accounting for over 50% of all identified cases.<sup>4,5</sup>

## CAUSES OF SUDDEN CARDIAC ARREST AND DEATH IN ATHLETES

Causes of SCA/D can be subdivided into structural pathology and electrical conduction disease (Table 1). These conditions must be differentiated from normal athletic physiologic changes, which can

include an increase in cardiac mass, stroke volume, and vagal tone. In the United States, the prevalence of conditions causing SCA/D among young athletes (age 12 -25 years) is approximately 1 in 300.<sup>6</sup> Hypertrophic cardiomyopathy has traditionally been recognized as the most common cause of SCA/D in the US and is identified in up to 30% of cases.<sup>4,5</sup> Other causes include anomalous origin of the coronary arteries, Wolf-Parkinson-White Syndrome (ventricular pre-excitation), long QT syndrome, arrhythmogenic right ventricular cardiomyopathy, dilated cardiomyopathy, myocarditis, and aortic dissection. Extrinsic causes of SCA/D include commotio cordis and drug-induced cardiac events. It is important to note that up to 44% of causes of sudden cardiac death have no identified structural abnormalities on post-mortem exam, suggesting a previously asymptomatic electrical conduction disease as a potential etiology.<sup>2,4</sup>

## SCREENING

Most major medical organizations, including the American Academy of Family Physicians and American Academy of Pediatricians, recommend preparticipation cardiovascular screening for all adolescent athletes in an effort to identify those at risk for SCA/D.<sup>7</sup> It is generally recommended that screening begin around age 12 and be repeated every 1 to 3 years.<sup>2</sup> The most widely used standard for cardiovascular screening in athletes is the American Heart Association 14-element guideline which includes key components from personal history, family history and physical exam (Figure 1).<sup>8</sup> Cardiac auscultation should be performed in both supine and standing positions with and without Valsalva maneuver to identify murmurs due to dynamic left ventricular outflow tract obstruction



# SCREENING IN

(hypertrophic cardiomyopathy). A positive history or exam finding warrants further investigation prior to full clearance of that athlete for sports. Therefore screening should be performed well prior to the start of the season allowing adequate time for follow up and additional testing if needed.

Unfortunately, even when performed with utmost care and attention to detail, the history and physical have been found to detect only 20% of conditions which may predispose to SCA/D.<sup>9</sup> Screening by personal and family history also suffers from a high positive response rate of over 30% which impairs its specificity.<sup>2</sup> Due to these factors, the benefit of history and physical alone has been called into question. Including an electrocardiogram (ECG) in routine preparticipation cardiovascular screening has become more commonplace as a way to increase sensitivity for conditions known to cause SCA/D. This practice is supported by a recent meta-analysis which found that screening of athletes for potentially lethal cardiovascular conditions was over 94% sensitive by ECG but only 20% sensitive by history and 9% by physical.<sup>9</sup>

Despite the obvious benefit of this dramatic increase in sensitivity, preparticipation ECG screening has proved very controversial. One major concern is that false positive results from ECG screening can have significant financial and emotional consequences for an athlete and their family. Because initial criteria did not recognize many of the normal physiological adaptations of an athletic heart which lead to ECG changes, false positive rates reached up to 25%.<sup>10</sup> Over the past decade, updates to the interpretation criteria have been made to decrease the false positive rate to as low as 2.5% without sacrificing sensitivity.<sup>2, 10-12</sup> (Figure 2) However, continued progress is needed in this area to improve screening practices. Experience and training in applying interpretation criteria are key to correct implementation and thus are critical to acquire.

In addition to the potential harm of a false positive test, cost of ECG screening and follow-up testing of abnormal results need to be considered. A successful screening program is predicated on the availability of cardiologists, imaging modalities, genetic testing and other resources which may be difficult to access in many settings.<sup>2,13</sup> Furthermore, the cost-benefit ratio of ECG screening varies with the prevalence of the disease in the group being studied. With these considerations in mind, both the NCAA and American Medical Society of Sports Medicine (AMSSM) recently released statements that recognize preparticipation ECG screening increases early detection of conditions that cause SCA/D but they stop short of recommending preparticipation ECG screening for all athletes.<sup>2,14</sup> Instead, physician judgement is recommended in determining what cardiovascular screening program is most appropriate for a given patient population. It is therefore essential for family physicians and other primary care physicians performing this service to be well informed.

## FOLLOW UP

Athletes (and their families) who are diagnosed with a previously unknown condition that may put them at risk for sudden cardiac death face a psychological impact that must be considered and addressed.<sup>15</sup> The genetic component inherent in the majority of these conditions raises concerns regarding the potential risk in family members that requires clarification. In some cases, restriction of the athlete from all strenuous athletic activity is clearly indicated, whereas in other cases a variety of different management options may allow for continued participation in sports. Therefore close communication with a cardiologist experienced in the care of athletes is essential for high quality care and adequate counseling. Guidelines from the American Heart Association and American College of Cardiology on eligibility for athletes with cardiovascular abnormalities may also serve as a valuable resource for primary care physicians seeking information on how best to advise their patients (Table 2).<sup>16</sup>

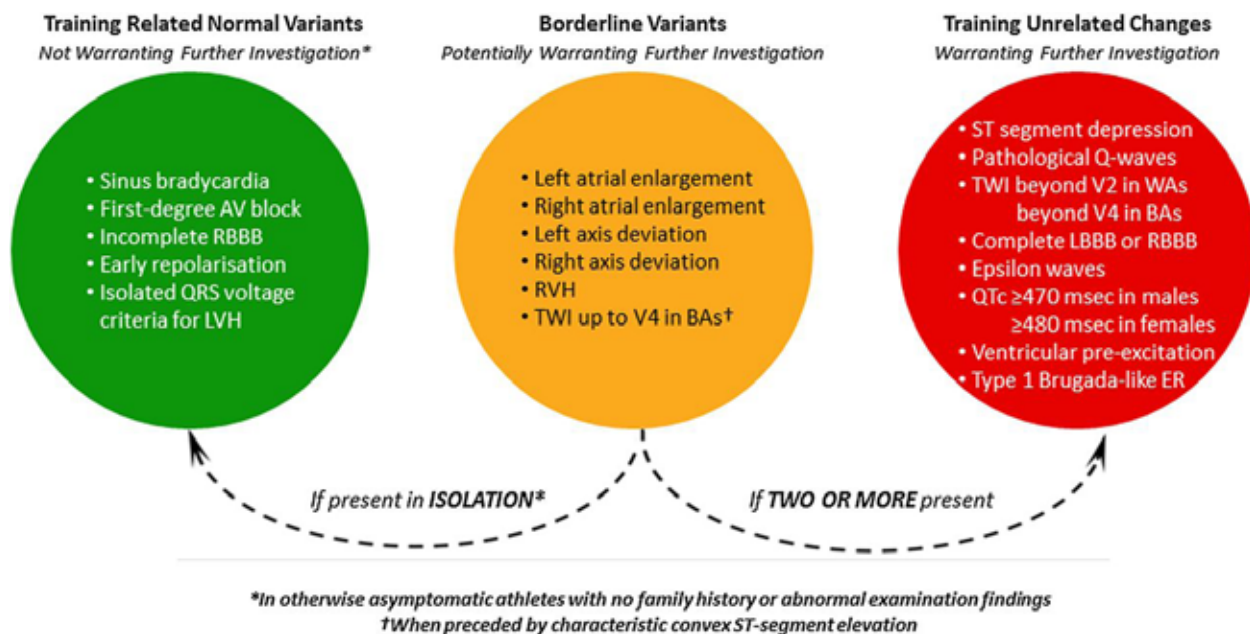
<b>Structural/Functional</b>	<b>Electrical</b>	<b>Other</b>
Hypertrophic Cardiomyopathy	Long QT Syndrome	Commotio Cortis
Coronary Artery Anomalies	Wolf-Parkinson-White Syndrome	Stimulant/Drug Use
Aortic Dissection	Brugada Syndrome	Primary Pulmonary Hypertension
Dilated Cardiomyopathy	Catecholaminergic polymorphic ventricular tachycardia	
Myocarditis	Short QT Syndrome	
Arrhythmogenic Right Ventricular Cardiomyopathy	Complete Heart Block	
Coronary Artery Disease		

Adapted from: Campbell R, Berger S, Ackerman MJ, Morrow WR, Jenkins K, Minich LL, Rosenthal GL, Snyder CS, Twedell J. Pediatric sudden cardiac arrest. *Pediatrics*. 2012 Apr 1;129(4):e1094-102.

Figure 1: The 14-Element AHA Recommendations for Preparticipation Cardiovascular Screening of Competitive Athletes

<p><b>Medical history*</b></p> <p><b>Personal history</b></p> <ol style="list-style-type: none"> <li>1. Chest pain/discomfort/tightness/pressure related to exertion</li> <li>2. Unexplained syncope/near-syncope†</li> <li>3. Excessive and unexplained dyspnea/fatigue or palpitations, associated with exercise</li> <li>4. Prior recognition of a heart murmur</li> <li>5. Elevated systemic blood pressure</li> <li>6. Prior restriction from participation in sports</li> <li>7. Prior testing for the heart, ordered by a physician</li> </ol> <p><b>Family history</b></p> <ol style="list-style-type: none"> <li>8. Premature death (sudden and unexpected, or otherwise) before 50 y of age attributable to heart disease in ≥1 relative</li> <li>9. Disability from heart disease in close relative &lt;50 y of age</li> <li>10. Hypertrophic or dilated cardiomyopathy, long-QT syndrome, or other ion channelopathies, Marfan syndrome, or clinically significant arrhythmias; specific knowledge of genetic cardiac conditions in family members</li> </ol> <p><b>Physical examination</b></p> <ol style="list-style-type: none"> <li>11. Heart murmur‡</li> <li>12. Femoral pulses to exclude aortic coarctation</li> <li>13. Physical stigmata of Marfan syndrome</li> <li>14. Brachial artery blood pressure (sitting position)§</li> </ol>	<p>AHA indicates American Heart Association.*Parental verification is recommended for high school and middle school athletes.†Judged not to be of neurocardiogenic (vasovagal) origin; of particular concern when occurring during or after physical exertion.‡Refers to heart murmurs judged likely to be organic and unlikely to be innocent; auscultation should be performed with the patient in both the supine and standing positions (or with Valsalva maneuver), specifically to identify murmurs of dynamic left ventricular outflow tract obstruction.§Preferably taken in both arms.Modified with permission from Maron et al. Copyright © 2007, American Heart Association, Inc. Maron BJ et al. Assessment of the 12-lead ECG as a screening test for detection of cardiovascular disease in healthy general populations of young people (12–25 years of age): A scientific statement from the American Heart Association and the American College of Cardiology. Circulation 2014 Sep 15; [e-pub ahead of print].</p>
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Figure 2: Interpreting the athlete’s electrocardiogram



Adapted from Sheikh et al Circulation 2014. Athletes with isolated borderline changes are only investigated in the presence of symptoms, abnormal physical examination, or relevant family history. The presence of >1 borderline changes categorizes the athlete’s ECG as abnormal. AV, atrioventricular; BA, black athletes; ER, early repolarization; LBBB, left bundle branch block; LVH, left ventricular hypertrophy; RBBB, right bundle branch block; RVH, right ventricular hypertrophy; TWI, T-wave inversion; WA, white athletes.

Lastly, because no screening program will prevent all cases of SCA/D, the availability and proper use of an automated external defibrillator (AED) and CPR are essential components of care for the adolescent athlete. Numerous studies have shown that the availability of an AED on-site in combination with an established emergency action plan improves outcomes of sudden cardiac arrest.<sup>2</sup> One national prospective survey found that survival rates are 4 times higher in cases in which an on-site AED was used versus cases in which the AED used was brought to the scene by emergency response personnel.<sup>17</sup> New York State has been at the forefront of legislation to prevent sudden cardiac death in adolescents with laws in place mandating AED placement at all schools and sporting events and requiring all high school seniors be trained in AED use during health class. Such efforts provide an important foundation for the prevention of sudden cardiac death among individuals of all ages and may serve as a model for other initiatives.

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**Table 2: Key Resources for the Family Physician Performing Preparticipation Cardiovascular Screening of Athletes**

- Preparticipation Physical Evaluation. 4th ed. Elk Grove Village, IL: American Academy of Pediatrics; 2010.
- Maron BJ et al, Eligibility and Disqualification Recommendations for Competitive Athletes with Cardiovascular Abnormalities: A Scientific Statement from the American Heart Association and American College of Cardiology. *J Am Coll Cardiol* 2015
- British Medical Journal on-line course: “ECG interpretation in Athletes” <http://learning.bmj.com/ECGathlete>



## INTRODUCTION

The value of physical activity to the realms of both public and personal health is incontrovertible. It is not only a potent, but also cost effective method of health promotion. While it is useful for the treatment of chronic illnesses like diabetes, obesity, hyperlipidemia and hypertension, its greater value lies in disease prevention. The United States Centers for Disease Control and Prevention (CDC) recommends that school-age children participate in at least 60 minutes per day of moderate to vigorous physical activity and include exercises that strengthen muscles and bones at *least* three days per week.

Although the strength of evidence supporting the benefits of exercise is variable, several systematic reviews demonstrate that its benefits are far more than preventing chronic lifestyle diseases such as diabetes and hypertension. It not only reduces adiposity, cholesterol, and blood pressure, but also improves:

- Bone health
- Aerobic fitness through cardiac adaptations
- Muscular strength and endurance
- Positive effects on cognitive performance
- Psychosocial well-being.

Unfortunately however, these health benefits are not usually the motivating factor for most adolescents. Instead, adolescents are motivated by notions of improved physical fitness and performance if they are athletes or by notions of improved body composition and body image, or to alleviate boredom and to socialize. Interestingly, The Study of Early Child Care and Youth Development, a longitudinal study, observing children of varying age groups between the years 2000 and 2006, found that virtually all nine-year-old children met the CDC guidelines. However, by 15 years of age, only 32 and 18 percent of 15-year-olds met the CDC guidelines on weekdays and weekends, respectively (Nader, Bradley, Houts, McRitchie, & O'Brien, 2008). This is a worrisome trend as decreased physical activity in adolescence correlates with decreased activity in adulthood robbing these individuals of the many benefits of exercise (Baranowski T, 1997). Keep in mind however; disparities exist in physical activity rates by race/ethnicity, socioeconomic status, gender, age and region. It is also important to note that the CDC guidelines are a *minimum* recommendation of exercise not the ideal recommendation.

Approximately 17% (12.7 million) of children and adolescents aged 2-19 years are obese (Ogden CL, 2014). Excess medical costs due to overweight adolescents are estimated at more than \$14 billion per year (Trasande & Chatterjee, 2009). Adolescence is a crucial period for establishing healthy behaviors. Many of the habits formed during this developmental stage will last well into adulthood.



# EXERCISE AND WEIGHT TRAINING IN ADOLESCENTS

By Utsav Hanspal, MD, MPH

## ENDURANCE AND STRENGTH TRAINING

Much attention (and rightly so) has been given to the health and cardiovascular benefits of endurance and aerobic training while weight training has traditionally been viewed within the confines of developing muscular strength, size, endurance and power without acknowledging its beneficial effects on prevention and treatment of chronic illnesses. More attention will be given to the role of weight training in this article. Several studies have demonstrated an anatomic adaptation in the myocardium in response to exercise. Divergent cardiac adaptations occur in athletes performing dynamic (e.g. running) and static (e.g. weightlifting) sports (Pluim, Zwinderman, Laarse, & Wall, 2000). Athletes involved in dynamic sports develop predominantly increased left ventricular chamber size with a comparative increase in wall thickness (Pluim, Zwinderman, Laarse, & Wall, 2000). This adaptation results primarily from the volume overload (increased preload) associated with the high cardiac output of endurance training. Thus, endurance-trained athletes demonstrate

eccentric left ventricular hypertrophy. On the other hand, athletes involved in primarily static exercise develop increased left ventricular wall thickness with a comparatively lesser increase left ventricular chamber size, attributable to an increased afterload associated with this form of training. Thus, strength-trained athletes demonstrate concentric left ventricular hypertrophy, which is characterized by an increased ratio of wall thickness to radius (Pluim, Zwinderman, Laarse, & Wall, 2000). It is important to keep in mind that these physiologic adaptations are not pathological and are termed the 'athletic heart syndrome'. Concentric hypertrophy associated with exercise is not a cause of sudden cardiac death in contrast to hypertrophic cardiomyopathy. In fact, both concentric and eccentric left ventricular hypertrophy result in improved cardiac function. For instance, the left ventricular end-diastolic internal diameter was found to be 53.7 mm for endurance trained athletes, 52.1 mm for strength-trained athletes and 56.2 for combined strength and endurance trained athletes compared to 49.6 mm for control subjects (all values  $p < 0.001$ ) (Pluim, Zwinderman, Laarse, & Wall, 2000). Athletes who undergo combined endurance as well and strength training receive the most benefits. In fact, a position paper endorsed by the American College of Sports Medicine recommends resistance training in addition to aerobic training (Michael L. Pollock, 2000). Both aerobic endurance exercise and resistance training can promote substantial health benefits as outlined in the Table 1 (adapted from Pollock et al. 2000).

The rationale to support resistance training comes from several lines of evidence. The pressor response to resistance exercise is largely proportional to two factors, namely, the percent of maximal voluntary contraction (MVC) and the muscle mass involved. Consequently, increased muscle strength and mass results in an attenuated pressor response (heart rate and blood pressure) to any given load, because the same load now represents a lower percentage of the MVC (Michael L. Pollock, 2000). Interestingly, while strength training does not significantly improve the VO<sub>2</sub> max of an individual, studies have shown that weight training does in fact increase submaximal endurance suggesting that improved endurance is not purely a function of aerobic exercise but can be significantly enhanced by increased muscular strength (Michael L. Pollock, 2000).

Because skeletal muscle is the primary metabolic "sink" for glucose and triglycerides, it is therefore an important determinant of resting metabolic rate (Stewart, 2006). A decrease in lean body mass then causes the familiar metabolic effects such as increased obesity, insulin resistance, dyslipidemia, diabetes and hypertension. The Framingham Heart Study conjointly with multiple other studies has elucidated the quantitative

**Table 1: Effects of Aerobic Endurance Training with Strength Training on Health Outcomes**

VARIABLE	ENDURANCE TRAINING	STRENGTH TRAINING
Bone mineral density	Increased	Increased
Body fat %	Decreased	Decreased
Lean body mass	Unchanged	Increased
Strength	Unchanged	Significantly increased
Insulin Sensitivity	Increased	Increased
Basal Insulin Levels	Decreased	Decreased
Insulin Response to glucose load	Decreased	Decreased
HDL	Increased	Increased
LDL	Decreased	Decreased
VO <sub>2</sub> Max	Significantly increased	Increased
Systolic Pressure	Decreased	Unchanged
Diastolic Pressure	Decreased	Decreased
Stroke Volume	Increased	Unchanged
Basal Metabolic Rate	Increased	Significantly increased

relationship between these risk factors and cardiovascular events (Stewart, 2006). By undertaking resistance training, one can mitigate the aforementioned cardiovascular disease risk factors. As obesity rates rise among the adolescent (and adult) populations, the role of exercise and weight training play a paramount role in disease prevention – a central tenet to the practice of medicine.

### SOME MISCONCEPTIONS

Despite the acceptance of strength training among healthcare and fitness professionals, there are several tenacious misconceptions regarding its safety. Among the most common is that strength training is unsafe and stunts growth. It is undoubtedly true that weight training, like any physical activity, has an inherent risk – serious injury can occur when done improperly with poor form and lack of supervision. While not true, many people erroneously believe that this form of training damages the epiphyseal (growth) plates (Cahill, 1988). On the contrary, endurance training, with its prolonged periods of repetitive impact activities poses a greater risk of epiphyseal injury (Cahill, 1988).

Another common misconception suggests that due to a lack of testosterone in children, strength training does not increase strength. While it is true that testosterone is an important anabolic hormone with a vital role in muscular hypertrophy, this notion likely stems from an incomplete understanding of the mechanisms of strength. Although muscle size, i.e. the amount of muscle fibers, determines the total work capacity of a muscle, neural innervation of those muscle fibers is just as important. The inability of the nervous system to recruit muscle fibers during a lift will render them nonfunctional, essentially

as if they did not exist. Thus hypertrophy will translate into increased strength provided the nervous system's ability to recruit more muscle fibers. Multiple meta-analyses provide evidence that strength gains are possible in children and mediated via neural adaptations, namely synchronized recruitment of motor units, increased number of motor units recruited, and improved firing rate or pattern of activated motor neurons (Behringer M, 2010), (Lesinski M, 2016), (Falk B, 1996).

Along the same lines, many fear the masculinization or “bulking up” of females if they engage in strength training. As discussed above, children lack the anabolic effects of sex hormones. And while adolescents do possess sex hormones, the amount of testosterone needed for the masculinization of females will only be possible under supraphysiologic conditions or exogenous steroid use.

### THE ROLE OF PRIMARY CARE PHYSICIANS

Because of their close relationship to patients, primary care physicians (PCPs) can act as catalysts to promote physical activity by providing supportive, pragmatic and meaningful counseling; however, doctors often encounter barriers to being able to properly address inactivity. A symposium co-hosted by the Society of Behavioral Medicine and the American College of Sports Medicine in 2014 revealed that despite extensive evidence in favor of the multidimensional benefits of physical activity, only one-third of patients report the receipt of physical activity counseling by their PCPs (Mona AuYoung, et al., 2016). There are several reasons why PCPs may not be providing adequate counseling for physical activity. These include:

- Lack of sufficient time with patients
- Lack of provider skill/information
- Lack of proper reimbursement
- Inability to reach at-risk patients
- Not requiring routine activity screenings, and
- Barriers on the patient end

According to AuYoung et al. physical activity screenings are the easiest way to begin a conversation about exercise. Such screenings can become part of annual physicals or themselves be separate appointments. In addition, the five A's (Assess, Advise, Agree, Assist, Arrange) model, which has been shown to be effective for smoking cessation counseling, is a convenient approach to physical activity counseling in clinical practice (Meriwether RA, 2008).

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Vaccines have long been a sticking point between medical professionals and patients. This age old debate has only become more heated in the past decade, as an increasing number of parents have delayed or refused to immunize children according to the Centers for Disease Control and Prevention (CDC) recommended schedule.<sup>1</sup>

While only less than 1% of all US children don't receive ANY vaccines, there are pockets of unvaccinated children and adolescents growing at an alarming rate.<sup>2</sup> As health care providers, reversing this trend involves understanding parents' perspectives. Identifying their concerns can help providers dispel some common misconceptions about vaccination safety and how best to approach these parents.

## SAFETY CONCERNS

Many parents refer to their own childhood when as few as 5-7 vaccines were standard. Since the 1980s, the number of routine vaccines has doubled from 7 to 14. Children receive a total of 49 shots by age 6. Many parents are left wondering why there are more vaccines and shots today, in a time period where common childhood illnesses that were almost death-sentences are now easily treatable, such as measles, diphtheria, and whooping cough.<sup>4</sup> Among the most common reasons vaccine hesitant parents refuse or delay immunizations is the number of shots given in a time period.<sup>3</sup> In a national cross-sectional survey of parents of children aged between 7-48 months, parents were given the option of hypothetical alternative vaccine scheduling, either spaced out with more office visits, versus vaccine skipping.<sup>9</sup> 46% of parents preferred a schedule with skipped shots, versus 25% who preferred spaced out vaccinations.<sup>9</sup> Ingredients like thimerosal and aluminum have garnered much attention (aided by the mainstream media) and have led to vaccine refusal. Thimerosal is an organic compound used as a preservative and contains 50% mercury by weight. In 1999, the EPA concluded that the levels of mercury in vaccines exceeded safe levels and as a result, thimerosal was removed as a preservative. While the links between thimerosal and autism have been debunked by the scientific community, a worrying percentage of parents continue to believe there is a link.<sup>5,6,7</sup>

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## VACCINATION: A STICKING POINT

Aluminum, an organic compound, is another cited vaccine ingredient that concerns parents. As medical professionals, it's important for us to point out that aluminum is found in far greater quantities in breast milk and formula. There are no known links between aluminum and adverse events via vaccination.

Refer to Table 4 for additional reasons for parental vaccine hesitancy and/or refusal.<sup>9</sup> The table presents options using non-standard approaches (any approach not adherent to CDC recommended vaccine schedule), and includes 4 categories: different specific schedule, general approach (without specific schedule), no predetermined plan and declined all vaccines.

## SOCIAL MEDIA AND THE HPV VACCINE

Some parents weary of vaccinating their teenage children believe the immunization enables early sexual activity and promiscuity. Studies have refuted this widely held misconception.<sup>7</sup> The mainstream media has served as a platform for misinformation regarding childhood and adolescent vaccines and the HPV vaccine is no exception. In a new twist, the media can be used to not only dismiss some falsehoods with the HPV vaccine, but can also be used to target unvaccinated teenagers. An Australian study did just that – targeted unvaccinated teenagers and saw an increased number of vaccinations after they received information and advertisements through their Facebook accounts. The group who did not receive targeted advertisement had a lower rate of vaccination.<sup>8</sup>

## THE OFFICE VISIT

Primary care providers are encountering more and more vaccine-hesitant parents. Understanding a parent's rationale for refusal is the first step in a healthy, productive dialogue. Providers should not shy from acknowledging research is ongoing, and real concerns with vaccines remain. However, it's paramount to also provide parents with facts and reassurance.

Both parties agree there is room for improvement during the office encounter. Many parents want to feel included in the decision to vaccinate, and feel the decision is made for them, or worse, they have no say in their child's health.<sup>9</sup> A good majority of parents also feel there should be room to choose which vaccines are given, and with flexible scheduling.<sup>9</sup> Table 3 reviews parent perspectives on the most important ways the vaccination process could be improved.<sup>9</sup> While many parents continue to have fears about vaccine ingredients, family



physicians should be able to provide them with timely vaccine information. Studies show the sooner parents are given vaccine information, the better, including providing information to expectant mothers.<sup>9</sup>

Vaccine hesitancy is as old as vaccines themselves. However, the recent spate of measles outbreaks nationally has placed the spotlight back into the age old debate of safety concerns. Health care providers need to develop productive exchanges with their teenage patients, and their parents about their decisions to vaccinate.

### Endnotes

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**Table 3.** Parent Perspectives on the Most Important Ways the Vaccination Process Could Be Improved.

	n (%) <sup>a</sup>		
	All Parents	Standard Schedule	Any Nonstandard Approach
Response regarding how the experience of receiving vaccines could be improved:			
Nothing could be improved	582 (48)	553 (51)	27 (19)
Vaccine information	271 (22)	232 (22)	38 (26)
Amount of choice I have	240 (20)	180 (17)	56 (40)
Interactions with my doctor	65 (5)	57 (5)	8 (6)
Something else	62 (5)	50 (5)	12 (8)
Most commonly selected specific ways to best improve vaccine information: <sup>b</sup>			
Receive information before visits instead of at them	55 (20)	48 (21)	7 (18)
More info on vaccine side effects/safety	51 (19)	49 (21)	3 (7)
Doctor to give better and more complete information	38 (14)	30 (13)	8 (20)
More information on ingredients	33 (12)	24 (10)	9 (24)
More information on diseases prevented	31 (11)	30 (13)	2 (4)
Most commonly selected specific ways to best improve the amount of choice: <sup>b</sup>			
Which vaccines my child gets	82 (34)	59 (33)	22 (40)
Having noninjectable options for vaccines (oral or intranasal)	68 (28)	55 (31)	9 (16)
When my child gets vaccines	45 (19)	30 (17)	15 (26)
How much time providers spend answering my questions	23 (10)	21 (12)	2 (4)

<sup>a</sup>Responses are weighted back to the eligible population. Six respondents who had missing or "other" responses to the question on what vaccination approach they used were excluded. Numbers may not add to 100% of responses due to rounding and omission of other responses. <sup>b</sup>Among all parents who selected this option as the most important way to improve the process.

**Table 4.** Most Important Reasons Given by Parents Who Used Nonstandard Vaccination Approaches.

Reason	No. (%) of Responses in This Subgroup <sup>a</sup>				
	All Parents Using Nonstandard Approaches (n = 142)	Different Specific Schedule (n = 39)	General Approach (n=39)	No Predetermined Plan (n = 34)	Declined all Vaccines (n = 30)
Too many vaccines are given at one time	45 (32)	20 (50)	19 (48)	6 (19)	NA
Uncomfortable with some vaccine ingredients	30 (21)	3 (7)	6 (16)	10 (29)	11 (38)
Some vaccines are not safe	17 (12)	2 (5)	3 (8)	4 (12)	7 (23)
One or more vaccines are not needed at the age they are recommended	6 (4)	1 (2)	3 (8)	2 (7)	NA
Child has a low chance of getting some of the diseases	10 (7)	1 (2)	2 (5)	2 (6)	5 (17)
Some of the diseases are not that serious	3 (2)	1 (1)	0 (0)	1 (4)	1 (3)
One or more recommended vaccines are not sufficiently effective	2 (1)	0 (0)	1 (4)	0 (1)	NA
Other, not classifiable	30 (21)	12 (31)	4 (10)	8 (23)	6 (19)

Abbreviation: NA, not applicable (this response option was not offered to this subgroup). <sup>a</sup>The question asked the respondent to indicate only one "most important" reason for their approach. Counts were weighted back to the eligible population and subgroup numbers may not add to the total numbers due to rounding.



## A Member's Perspective:

### Human Trafficking Bill Reflection

One of the most empowering aspects of being a NYSAFP member has been experiencing the Academy's encouragement of members to highlight issues in family medicine that they are passionate about. Since joining the NYSAFP in 2011 as a first-year family medicine resident with limited advocacy experience, Advocacy Commission and Board members have taken the time to guide me in developing critical advocacy skills. Five years later, as a family physician in New York City who runs a clinic for people who have experienced sexual trauma, the issue of health and human trafficking (which involves the use of force, fraud or coercion for the purposes of labor or commercial sexual exploitation) has been of particular importance to the community I serve.

In 2015, I had the opportunity to apply the advocacy skills gained from NYSAFP mentorship by authoring the resolution "Human Trafficking Education and Training for Family Medicine Physicians", which involved addressing the needs of human trafficking survivors by increasing education and awareness of this issue for our specialty. As New York is a major national trafficking hub, family physicians throughout the state serve on the front-lines of identifying trafficking survivors and connecting them with resources. However, data has shown that trafficking survivors often interface with our health care systems without ever being identified or connected with necessary services, due in part to a lack of training and awareness of this issue in the medical community. This resolution was adopted

by the NYSAFP at the 2015 Congress of Delegates, and a modified version was ultimately adopted at the national 2015 American Academy of Family Physicians Congress of Delegates.

Earlier this year, New York's bill A.8650-B/S.6835-B, "Identification and Assessment of Human Trafficking Victims" was brought to my attention through the non-profit organization HEAL Trafficking. Among the legislation's purposes was to require healthcare facilities to provide staff training in the recognition of human trafficking and managing their needs. The Advocacy Commission suggested that I draft a letter of support for this legislation and through the efforts of NYSAFP President Ostrander and Marcy Savage's team, a letter of support for the bill was sent to Governor Cuomo's office. On November 4th, Gov. Cuomo signed the legislation into law.

Reflecting on this series of events has made me appreciate the ways in which NYSAFP's encouragement, mentorship and advocacy can multiply our impact towards improving the health of our patients- particularly for those who are among the most vulnerable.

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**Anita Ravi, MD, MPH, MSHP**  
**Clinical Director- The Purple Clinic**  
**The Institute for Family Health**

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*Dr. Ravi personifies the physician advocate. She was instrumental in identifying a need in our state that few of us recognized, and brought it to the attention of NYSAFP. Thank you, Dr. Ravi for your hard work. -Rachelle Brilliant, DO, FAAFP, Chair, Advocacy Commission*

### Good News! Family Doctor is now worth more CME credits.

In an effort to evolve away from time-based credit as well as align with AMA policies, the AAFP Credit System has changed how journal credit is calculated. Effective immediately, the maximum number of credits will be based on the number of eligible articles within each issue with each article worth 1 CME credit. We will no longer require a post-test specific to a CME article, but instead have a short evaluation available for you to provide feedback which will help us improve future issues of Family Doctor.

For example, our summer 2016 issue is worth up to 8 CME credits and members can now claim credits commensurate with their participation. Like always, CME is claimed at the session level by logging in to your account and searching for the journal, selecting the issue, and inputting the number of credits based on the number of articles you read, up to the maximum allowed for that issue. Depending on the necessary approval time for each issue, there may be a delay in seeing credits for each issue, so check back frequently.

We hope that this change will enhance your learning experience with Family Doctor! If you have questions, please contact AAFP's CME Department at 800-274-2237.

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