

DELAWARE INTERSCHOLASTIC ATHLETIC ASSOCIATION

SPORTS MEDICINE ADVISORY COMMITTEE

DSMAC

Sabre Conference Room ,Newark DE

Minutes Dec 3, 2018 , 6-8pm

I. WELCOME, INTRODUCTION

- a. **Dr Michael Axe**, Chair/ AOSSM /Sports Orthopedics; **Mr. Tommie Neubauer**, DIAA Executive Director, Officials Rep; **Dr Julie Knowles**, Vice Chair, PT/AT NCC- Sussex Rep/ Prof Reg Board Rep; **Dr. Jeremie Axe**, Southern NCC/Kent Co Physician Rep/ Sports Orthopedics; **Mr Todd Fuhrmann** , ATC Sussex C ATC Rep, AD Rep **Mr Tom Beddow**, NCC ATC Rep, Coach Rep; **Dr JT Laws**, Sports PT, Coach Rep; **Ms. Lori Hoffman (McKeanHS)** NCC School Nurses Rep; **Dr Joe Straight**, College Rep/Sports Primary Care Rep;;**Ms Mandy Minutola**, Kent County ATC Rep, DATA Rep ; **Dr Brad Bley**, DIAA Board Rep; **Dr Patrick Kane**, Sussex Co Physician Rep/ Sports Orthopedics **Dr Lynn Snyder Mackler**, PT/AT NCAA Competitive Safeguards/ Researcher Rep**Ms Barbara Cilento (Cape HS)** , Kent/Sussex DE School Nurses Rep;. **Dr Ken Rogers** ATC AI Ped. Hospital/Research
Call In: [Please dial 302-737-8148 to call-in- see below] Dr Brad Sandella, CC Hospital Rep/ Sports Primary Care;

- b. **Guests: none**

II. LIASION REPORTS

- a. Liaison Reports
- i. AOSSM, Dr Axe: 2018 Meeting emphasized Pitch counts, Shoulder instability, Meniscal repairs, Gender and ACL grafts (attachments)
 - ii. School Nurses Association, Ms Hoffman and Cilento- . **Action Item: Mr Neubauer to review and add the few immunization requests to the PPEs- would like a line that says "please attach immunizations to this form"** . School nurses okay with TB not being added to the PPE. DSNA would like to know if NPs may be added to MD/DOs capable of clearing a concussed athlete for return to play. **Action Item: Ken Rogers looking into the new AI outreach center in Milford being a place where athletes can go for RTP clearance**
 - iii. NATA & DATA, Ms Costello: (DATA Pres) Reminder the school ATCs have permission to hold an athlete from return to play if the ATC can prove the student has not passed RTP criteria, especially in regards to concussions, despite clearance from a physician. ATCS may also pull an athlete of concern from practice etc despite coaching pressure (Uof Maryland)
 - iv. NFHS, Mr Neubauer : Dr Karissa Niehoff is new Executive Director : playing multiple sports reduces injury risks; Medical "time out" to review EAP prior to the start of a sporting event (see attachment)
 - v. AMSSM: Dr. Straight/Bley: Sports Med Licensure Clarity Act signed into law 2018; Blood Tests for concussions not a true reality (see attachment)

- vi. Hospitals: Dr Rogers/Sandella
- vii. NCAA Competitive Safeguards: Dr Snyder-Mackler Air Quality and play (attached) It is an interactive map that presents modifications based on air quality. A lot of time still being spent getting WADA and NCAA drug testing. Mental health also a major issue High School coaches and school ATs should be aware of this information in case air quality is an issue
- viii. PT/AT Board: Dr Knowles Licensure renewal end of January
- b. Other Liasion Discussion: none

III. Old Business Updates

a. DSMAC preseason policy: **Action Item: Mr Neubauer: the DIAA Acclimitization & Contact Policy has been presented to the DIAA Board for final vote and posting on the DIAA website – As previously discussed this shall apply to all sports or positions requiring helmets and or chest protector, and or shoulder pads. Mr Neubauer will check minutes but believes it is now a policy**

<https://www.doe.k12.de.us/cms/lib/DE01922744/Centricity/.../FAQs%201008.pdf>

b. **Pitch Count:** Mr Beddow requesting last 2 weeks in Feb for early pitching. Dr Axe recommended that each sport propose a plan for preseason risk minimization to Board. Mr Beddow asking that max of 170 pitches per week during first 6 weeks be endorsed by DSMAC, which it was

c. **FERPA/HIPAA Action Item: Mr Neubauer to discuss this with DIAA/DOE attorney and the implications of FERPA/HIPAA with non-formalized team physicians** Mr Neubauer stated his attorney suffered a concussion and has not addressed as of date. **Dr Bley stated that the designated healthcare provider must be recognized in advance of a competition by the school or DIAA.**

d. **Cramp policy update** Dr Axe noted that the cramp policy (no stretching cramps on field of play) has been well received. Also Theraworx muscle cramp relief w/ roller has been helpful. Dr Bley asked for the cramp policy to be an approved DIAA policy **Action Item: Mr Neubauer is going to propose the Cramp Policy: On the first incident per athlete, a maximum of 1 minute will be allowed for the treatment of a cramp on the field of play. Any other incident for cramp treatment on the field of play will result in that athlete's removal from competition for the remainder of the half.**

NEW BUSINESS –

Football- 8th graders playing varsity, 6th graders playing middle school football. Dr Bley A waiver to have 6th graders play up was received for participation numbers There are few studies regarding MSK injury risk but the ones that have been done do not appear to show increased risk. The research is a little bit all over the place in regards to concussion risk. Studies in hockey have shown an increased risk of concussion and other injury if checking is allowed before age 12(hence USA hockey does not allow checking until 12yo); however, this has not been shown in football. There was one study in Neurology(attached) that appeared to show an increased risk of later-life cognitive impairment with earlier exposure to football. Several systematic reviews have not

found any association between football and risk of long term problems. Currently, the DIAA does not allow 6th graders to participate so the waiver was not granted. Dr Bley recommended that if it is something that the board is interested in looking into in the future, DSMAC should have an injury surveillance program in place before any rule change so that we can carefully monitor the rate of injuries. Mr Laws stated research shows contact sports before age 12 increases risk of neurological disorders in life. **Mr Neubauer stated that he is recommending that 6th graders not be allowed to play up, regardless of reason.**

b. **PPEs:** Mr Fuhrman

- i. Where should PPEs be kept
- ii. What info should be made available to ATC staff
- iii. Can form be modified to include better ortho information

Mr Neubauer stated by regs nurse, AT and AD should have page 4. **Mr Neubauer and school nurses stated that the original PPE forms should be kept in the nurses office with a copy to the ATCs Ms. Cilento: Action Item: See attached update of physician signature on page 4**

c. A discussion of the **DIAA Survey on Coaching Out of Season** Dr Bley/Mr Neubauer

There has been a push by several coaches to be allowed to coach athletes out of season. One concern that has been raised is that it may increase the rate of injuries due to sports specialization. Dr Bley attached several articles regarding sports specialization and injury risk. In addition, you can see a nice summary article here: <http://www.nfhs.org/articles/playing-multiple-sports-reduces-injury-risk/> And another article by Dr. Kevin Fitzgerald regarding the multi-sport athlete in

DE: <http://www.nfhs.org/articles/why-multi-sport-athletes-should-matter-to-administrators/>

There is an ethical consideration of coaches getting paid out of season to coach their athletes. State assembly asked for opinions regarding this situation; hence, survey. Sports Specialization link: <http://www.nfhs.org/articles/nfhs-smac-member-shares-tedx-talk-on-sports-specialization/> **Dr Axe suggested that the sports organizations (ex DIFCA) come up with an out of season plan and pilot study it for 2 years. Dr Axe also suggested that this only be allowed for juniors and seniors to help prevent sports specialization. Mr Laws suggested that specific times be designated where out of season coaching can occur.**

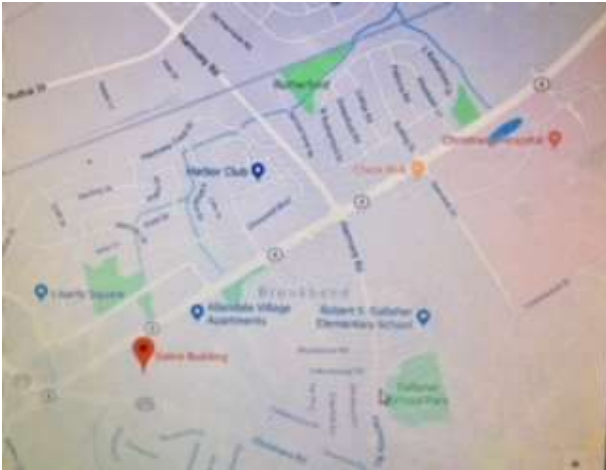
d. **Time between football games:** Dr Bley Due to scheduling conflicts and weather cancellations, a football team was scheduled to play on a Monday and then Thursday. Is this too little time between games? Should we create criteria that requires a minimum time between football games? Several studies show an increased rate of injuries in games compared to practice but studies that discussed time between matches could not be found. There were a few studies in soccer players. One study (<https://www.ncbi.nlm.nih.gov/pubmed/20400751>) showed an increased rate of injury when playing more than 2 soccer matches in a week. Another study showed increased injury rates with less than 4 days of rest vs greater than 6 days (<https://www.ncbi.nlm.nih.gov/pubmed/23851296>). Mr Neubauer stated it is important to recognize Sunday afternoon/evening as an option for play. Mr Laws suggested 5 quarters in any 7 day period should be max allowable, noting at least 5 days recovery and prep are needed. **Recommendation: DSMAC recommends at least 5 day rest between football games , or only have the weather waiver and limit 5 quarters per week, with Sunday included.**

e. **Football kickoffs:** Dr Bley This has not been discussed at the board level yet but I think it would be good to discuss. In the NCAA, kickoffs only account for 6% of all plays but 21% of all concussions. A simple rule change, drastically decreased the rate of injury. Ivy league has changed rules to discourage returns and modify fair catch. Eliminate bunch kick and other NCAA like items are being discussed by DIFCA

f. All please fill out rule change questionnaire online at NFHS.org

Next Meeting: SECOND Monday in December and FIRST Monday in May, 6-8 pm. Please bring your emailed documents with you to meeting

LOCATION: SABRE CONFERENCE ROOM (SECOND FLOOR)



4051 Stanton- Ogeltown Rd Newark Delaware 19713

DE-1 N/US-13 N. Take exit **162** for **DE-273** toward **Newark/New Castle**. Turn left onto **DE-273 W/Christiana Rd/ Frenchtown Rd W**. Continue to follow **DE-273 W**. Take the exit toward **Cedarwood Rd**. Continue straight. Destination will be on the right. Enter main entrance and look left for stairs. At top of stairs take a hard left followed by a right. FSO Sabre Conference Room will be down the hall on your left.

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Julie's Cell: 302-236-4681

IF YOU ARE NOT ABLE TO PHYSICALLY ATTEND BUT WANT TO BE CALLED INTO THE CONFERENCE PLEASE .
[Please dial 302-737-8148 to call-in] A call-in ahead of time person must publicize they are doing so (contact Tina at DIAA ahead of time and do so from a public location)

'REPLY ALL ' AT LEAST 4 DAYS PRIOR SO THAT DR AXE MAY GIVE YOU CALL IN INFORMATION. IF YOU HAVE ITEMS YOU WANT ADDED TO THE AGENDA, PLEASE SEND BETWEEN 1 AND 2 MONTHS PRIOR TO THE NEXT MEETING

THANK YOU



NEWS RELEASE

Contact Information

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2018 MEETING HIGHLIGHTS

Young Athletes with Shoulder Instability Have Low Revision Rates and High Return to Sport Rates After Arthroscopic Anterior Shoulder Stabilization with Proper Patient Selection, Say Researchers

SAN DIEGO, CA – Young athletes with shoulder instability are considered to be a high-risk group of patients following arthroscopic shoulder stabilization given the high recurrence rates and lower rates of return to sport, which have been reported in the literature. However, according to researchers presenting their work today at the American Orthopaedic Society for Sports Medicine's (AOSSM) Annual Meeting in San Diego outcomes may be improved by proper patient selection and reserving arthroscopic stabilization for athletes with fewer incidents of pre-operative instability.

The senior author of this study, Frank A. Cordasco, MD, MS and his colleagues from the Hospital for Special Surgery in New York City presented a series of patients with shoulder instability between the ages of 14 and 20 who were treated with arthroscopic anterior stabilization performed in the beach chair position by a single surgeon. The primary outcomes were the rates of revision surgery and return to sport at a minimum follow-up of 2 years. Sixty-seven athletes were included in the study with 19 females and 48 males who averaged 17 years of age. There was a low rate of revision surgery of 6% and 82% percent of the athletes returned to sport at an average of 7 months following surgery.

“Our study highlights the importance for young athletes with shoulder instability, undergoing a thorough preoperative evaluation to determine the number of instability events and to obtain appropriate advanced imaging when significant bone loss is suspected. Each pre-operative instability episode can result in greater degrees of bone loss, which results in higher failure rates following arthroscopic shoulder stabilization. This pre-operative approach can determine the best procedure to select from the menu of operations we use to manage shoulder instability,” said Cordasco. “This

menu includes arthroscopic stabilization, open stabilization and bone augmentation such as the Latarjet reconstruction. Providing the young athlete with the appropriate selection from the menu will lead to the best outcomes in this high-risk group and will allow them to predictably and reproducibly get back in the game.

Forty-two of the 67 (63%) athletes in this study were indicated for surgery after their first dislocation and only a few had more than two instability episodes. “We found a gender-specific difference in that all of the six recurrences occurred in males. This study demonstrates that when the high-risk young athlete with fewer episodes of pre-operative instability is treated with an arthroscopic stabilization, the revision surgery rate is low and the return to sport rate is high. Arthroscopic shoulder stabilization may offer the best outcomes in this group when it is performed after the first dislocation. Additional research needs to be performed to continue to improve the outcomes for this challenging group of young, active high-risk athletes,” said Cordasco.

Following Pitch Count Guidelines May Help Young Baseball Players Prevent Injuries

SAN DIEGO, CA – Young pitchers who exceed pitch count limits are more prone to elbow injuries, according to research presented today at the American Orthopaedic Society for Sports Medicine’s Annual Meeting in San Diego. Season statistics of players were compared relative to pitch count limits established by the Japanese Society of Clinical Sports Medicine.

“Our research focused on 149 young pitchers ranging in age from 7 to 11 who had no prior elbow pain,” commented lead author Toshiyuki Iwame, MD, from Tokushima University in Tokushima, Japan. “We found those who reported elbow pain after the season were associated with pitching numbers beyond current throwing guidelines.”

Researchers asked the players to complete a questionnaire after the season, which showed 66 (44.3%) experienced pain. Multivariate analysis showed that throwing more than 50 pitches per day (OR, 2.44; 95% CI, 1.22–4.94), 200 pitches per week (OR, 2.04; 95% CI, 1.03–4.10), and 70 games per year (OR, 2.47; 95% CI, 1.24–5.02), the baselines established by the JSCSM, were risk factors for pain.

“As the demand on young pitchers to play more increases, there is less time for repair of bony and soft tissues in the elbow,” commented Iwame. “We hope research like this continues to direct young athletes, parents and coaches to follow pitch limits to prevent injuries.”

The study authors noted the player recall bias, reporting of pain detail on the questionnaire, and limited geographical representation were limitations of the research.

Surgery Offers Young Patients Long-Term Benefits after Meniscus Tears

SAN DIEGO, CA – Young patients who underwent surgery for isolated meniscus tears between 1990 and 2005 showed positive long-term clinical results, according to new research presented today at the American Orthopaedic Society for Sports Medicine’s Annual Meeting in San Diego. The study represents one of the largest long-term follow-up cohorts describing clinical outcomes of meniscus repair in pediatric patients to date.

“The patients we observed at a long-term follow up had an average IKDC score of 92.3, continuing increases from the pre-operative average of 65.3 and mid-term average of 90.2,” noted corresponding author Aaron Krych, MD, from the Mayo Clinic in Rochester, Minnesota. “These numbers show a significant, lasting improvement in functional outcomes for those involved in this study.”

Researchers examined 32 patients (and 33 knees) at an average follow-up of 17.6 years after surgery. At the time of repair, the average age of patients was 16.1 years. Of the 33 knees included in the study, none had a failed repair since the previous follow-up in 2008. The average Tenger activity score was 6.53, lower than pre-operative 8.33 and mid-term scores of 8.39, though the authors indicated decreasing sports activity with age may be an independent risk factor and not indicative of poorer surgical outcomes.

“Finding the best treatment options for these meniscus tears is important not only to the patient’s immediate recovery, but for long-term health and wellness,” commented Krych. “Our research team believes the data from this study shows the promise of surgery for young patients with these types of injuries.”

Limitations of the work include no MRI data or radiograph images available, and a relatively small patient population despite being one of the largest group studied. Future studies to assess the progression of knee osteoarthritis are recommended.

Results for Female ACL Graft Repair Methods Differ Among Younger Athletes, Say Researchers

SAN DIEGO, CA – Female athletes are two to eight more times likely to injure their ACL than males, however utilizing one graft repair treatment method in females may be more beneficial than another, according to researchers presenting their work today at the American Orthopaedic Society for Sports Medicine’s (AOSSM) Annual Meeting in San Diego.

Young females have been shown in previous literature to have a higher risk for graft failure with very little known about why this occurs. “Our study compared clinical outcomes in young females who had ACL reconstruction using bone-patellar tendon-bone (BTB) and quadrupled hamstring (HS) autografts. Higher rates of re-tears in our patients were seen in our youngest patients using HS autografts,” said senior author, Kevin B. Freedman, MD from the Rothman Institute in Philadelphia, PA.

Freedman and his colleagues reviewed 256 female patients between the ages of 15-25 who underwent primary ACL reconstruction using either the BTB or HS autograft between January 2012 and May 2015. Patients with a prior history of ACL injury to either knee were excluded. The results illustrated that graft re-tear occurred in 6.9% of BTB patients and 13.6% of HS patients. Contralateral ACL tear occurred in 7.4% of BTB patients and 6.2% of HS patients. When researchers broke down the graft tears by age, those in the 15-20-year-old group had a significantly lower rate of re-tear with 6.4% in the BTB compared to 17.5% in the HS group. This same difference was not observed in older females in the 20-25 age group

“More research needs to be performed to better understand female ACL injury and what the best methods for repair are in our youngest patients who are at highest risk of re-injury. We hope that our research will add to the literature and treatment prospects for this complex problem,” said Freedman.



PRESS RELEASE

American Medical Society for Sports Medicine

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Why the FDA-Approved Blood Test is Not about Concussions

LEAWOOD, KS — On February 14th, the U.S. Food and Drug Administration (FDA) approved a blood test that has been proposed to diagnose concussion. Many media outlets quickly reported this announcement as being a breakthrough in concussion diagnosis. The blood test, in actuality, is intended to help determine whether or not there may be bleeding or other structural injury in the brain after a head injury, necessitating further imaging with a CT scan. Bleeding, or other gross structural injuries of the brain, are not considered synonymous with a concussion. It is readily accepted that a CT scan is not necessary to diagnose a concussion and will be normal in the overwhelming majority of patients ultimately diagnosed with a concussion.

Currently, this test has only been approved for use in adults, rendering it unusable to the majority of patients with sport-related concussion injury. While the promise of a blood test to help diagnose concussion is exciting, this test unfortunately does not accomplish that. Clarifying this fact to the general public is important, as further marketing or promotion of the test as one for concussion confuses the general public, and may create inappropriate demands for it. This will almost certainly lead to increased health care costs, promote misdiagnosis, and reduce vigilance in the setting of concussion in patients who have a “negative” test.

This test may have clinical utility for a health care provider evaluating an adult patient who demonstrates signs or symptoms that are concerning for bleeding or other structural injury as to whether or not further imaging is truly necessary. Concussions may present with a variety of symptoms and severity of those symptoms.

Finally, blood tests should never take the place of a thorough clinical examination and patient history. The American Medical Society for Sports Medicine (AMSSM) strongly recommends that patients with a suspected concussion be evaluated by a healthcare provider with experience and expertise in diagnosis and management of concussion. The AMSSM has a network of over 3,600 physicians with training in concussion diagnosis and management.

About the AMSSM: AMSSM is a multi-disciplinary organization of sports medicine physicians dedicated to education, research, advocacy and the care of athletes of all ages. The majority of AMSSM members are primary care physicians with fellowship training and added qualification in sports medicine who then combine their practice of sports medicine with their primary specialty. AMSSM includes members who specialize solely in non-surgical sports medicine and serve as team physicians at the youth level, NCAA, NFL, MLB, NBA, WNBA, MLS and

NHL, as well as with Olympic and Paralympic teams. By nature of their training and experience, sports medicine physicians are ideally suited to provide comprehensive medical care for athletes, sports teams or active individuals who are simply looking to maintain a healthy lifestyle. www.amssm.org

NOTE: For more information, please contact the AMSSM, 4000 W. 114th St., Suite 100, Leawood, KS 66211, (913) 327-1415.



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Air Quality

In September 2018, the NCAA Committee on Competitive Safeguards and Medical Aspects of Sports updated its 2016 guidance related to student-athlete practice and competition activities in poor air quality conditions: This guidance is provided below:

There are three reasons why otherwise healthy athletes are at special risk for inhaling pollutants. First, as physical activity increases minute ventilation, the number of pollutants that are inhaled relative to when the athlete is at rest are increased. Second, during activity, a larger proportion of air is inhaled through the mouth, which bypasses the body's built-in nasal filtration system. Third, pollutants are inhaled more deeply and may diffuse into the bloodstream more quickly during physical activity. These risks are heightened in athletes with pre-existing pulmonary or cardiac conditions.¹

An important and standardized national air quality resource is the National Weather Service's (NWS) Air Quality Forecast System. This system "provides the US with ozone, particulate matter and other pollutant forecasts with enough accuracy and advance notice to take action to prevent or reduce adverse effects." (Accessed 7/14/18;).

A key component of this forecast system is the NWS Air Quality Index (AQI).²The AQI provides real-time monitoring and alerts in response to changing air quality levels. The AQI accounts for five different pollutants, including: 1) ground-level ozone; 2) particle pollution (also known as particulate matter); 3) carbon monoxide; 4) sulfur dioxide; and 5) nitrogen dioxide. Of these, ground-level ozone and particulate matter are the most common and most concerning pollutants for outdoor physical activity. The AQI is a single number, presented on a scale of 0 – 500, where 0 indicated no air quality problems and 500 indicates the most hazardous levels of air pollution. A specialized version of the AQI for particle pollution is also available and should be consulted in those situations when threats to air quality come from wildfires, road dust, and agricultural operations.²

When threatening or dangerous air quality levels are present the AQI increases, and the National Weather Service (NWS) issues a corresponding air quality alert. Those alerts and their corresponding behavioral modification recommendations for particle pollution can be found at <https://www.airnow.gov>.²

Consistent with this information, the Committee on Competitive Safeguards and Medical Aspects of Sports offers the following general guidance to member institutions trying to make decisions about the appropriateness of practice or competition in degrading air quality situations:

- Attentive monitoring of local AQI and associated air quality alerts, especially during times of extreme environmental conditions, is recommended. This monitoring is best performed by the primary athletics healthcare providers trained to monitor environmental impacts on student-athlete health and safety. However, schools may choose to delegate this responsibility to another staff member with knowledge and training about environmental monitoring.
- Member schools should consider shortening or canceling outdoor athletic events (practices and competitions) in accordance with AQI guidance. Exposure should be managed more conservatively for student-athletes with pre-existing pulmonary or cardiac conditions, which may exacerbate the complications of these conditions and lead to an acute medical emergency. Specifically, at an AQI of 100 or higher, schools should consider removing sensitive athletes from outdoor practice or competition venues and should closely monitor all athletes for respiratory difficulty.² Reduce heavy or prolonged exertion in sensitive individuals.
- At AQIs of over 150, outdoor activities should be shortened, and exertion should be minimized by decreasing the intensity of activity. Sensitive athletes should be moved indoors.²
- At AQIs of 200 or above, serious consideration should be given to rescheduling the activity or moving it indoors. Prolonged exposure and heavy exertion should be avoided.² Avoid all outdoor physical activity for sensitive individuals .

- At AQIs of 300 or above, outdoor activities should be moved indoors or canceled if indoor activity is not an option.²
- School emergency action plans should guide the emergency care response in these circumstances, and staff should rehearse the plan at a minimum of once a year.

References

1. Carlisle AJ, Sharp NC. Exercise and outdoor ambient air pollution. *Br J Sports Med*. 2001;35(4):214-222.
2. United States Environmental Protection Agency. Air quality guide for particle pollution. 2016; <https://www.airnow.gov/index.cfm?action=pubs.agguidepart>. Accessed July 18, 2018.