How to build a sports medicine program—gridiron of western Pennsylvania—a Pitt orthopaedic tradition

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During the 1970's, Dr. Pierce Scranton (an orthopaedic surgeon at UPMC, at the time) was asked by his neighbor, the superintendent of Keystone Oaks High School in Pittsburgh, Pennsylvania, to provide medical care for their football team. This marked the beginning of a longstanding relationship between UPMC Sports Medicine and high school football in western Pennsylvania. Dr. Scranton asked one of UPMC's orthopaedic surgery residents at that time, Dr. Freddie Fu, to help care for these young athletes. In 1982, Mount Lebanon High School contacted UPMC's orthopaedic surgery chairman at that time, Dr. Albert Ferguson, with a similar request for an orthopaedic physician to be their football team doctor. Dr. Ferguson embraced this opportunity and urged Dr. Fu to take it. He did, and during the first game that he covered, a player suffered a violent injury near the goal line, fracturing his femur. With scarce medical resources, Dr. Fu had to hold the young man's leg in alignment for 30 minutes while waiting for an ambulance to arrive.

The lack of adequate on-field medical resources at that time illustrated the need for improvement in the available care for high school football athletes. The first step was to implement having emergency medical personnel, including an ambulance, on site for every game. This was followed by organizing the first high school athletic training program in western Pennsylvania, which ensured that healthcare providers would be present for all high school football games. Importantly, the discrepancy between economically privileged suburban districts and inner-city schools also needed to be addressed. To level the playing field, UPMC joined forces with former Pittsburgh Steeler Andy Russell's charitable foundation, which provided funding for five years,

as well as Pittsburgh Public Schools Director of Athletics, George Cupples, who played a key role in coordinating coverage. Through these efforts, inner-city high schools have had athletic trainers at every football game for over 30 years. High school football coverage has grown to involve most of the department of orthopaedic surgery and athletic trainers, and is not limited to musculoskeletal care; UPMC became the first to perform baseline ImPACT testing (a neurocognitive test for concussion care) for all high school athletes.

Over the past decades, UPMC Sports Medicine has expanded its coverage of high school football, providing sideline care for dozens of local schools across all sports. UPMC physicians and athletic trainers have experienced the rich history of many schools in western Pennsylvania and have enjoyed the blue-collar mentality of the area. New Castle, Pennsylvania—home of Zambelli fireworks¹—was the first high school to build a stadium with lights for evening games, along with live fireworks displays. Woodland Hills formed from a merger of five other schools, where students from demographically different areas came together to form a single team. Among the high schools that UPMC has covered since the 1970's, many have featured future NFL stars, including Taylor Allderice (Curtis Martin—NFL Hall of Fame, 1995–1997 New England Patriots, 1998–2006 New York Jets), Aliquippa (Darrelle Revis—Super Bowl Champion, New York Jets 2007–2012 and 2015–2016, Tampa Bay Buccaneers 2013, New England Patriots 2014, Kansas City Chiefs 2017; Ty Law—NFL Hall of Fame, 3× Super Bowl Champion, New England Patriots, 1995–2004, New York Jets 2005 and 2008, Kansas City Chiefs 2006–2007, Denver Broncos 2009), Clairton (Tyler Boyd—Cincinnati Bengals 2016–Present), North Hills (LaVar Arrington—Washington

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¹ Zambelli Fireworks is a fireworks company based in New Castle, Pennsylvania in the Pittsburgh metropolitan area. The company was founded in Naples, Italy by Antonio Zambelli in 1893. Zambelli immigrated to the United States and established “Zambelli Fireworks Manufacturing Company” in New Castle, incorporating it on August 3, 1960.

Fig. 1 Dr. Freddie H. Fu standing in front of the newly renamed Freddie Fu Sports Medicine Center—2018

Redskins 2000–2005, New York Giants 2006), Penn Hills (Aaron Donald—Los Angeles Rams 2014–Present, 3×Defensive Player of the Year; Bill Fralic—Atlanta Falcons 1985–1992, Detroit Lions 1993), and Woodland Hills (Jason Taylor—NFL Hall of Fame, Defensive Player of the Year, Miami Dolphins 1997–2007 and 2009 and 2011, Washington Redskins 2008, New York Jets 2010; Rob Gronkowski—4×Super Bowl Champion, New England Patriots 2010–2018, Tampa Bay Buccaneers 2020–Present; and Steve Breaston—Arizona Cardinals 2007–2010, Kansas City Chiefs 2011–2012).

Fig. 3 Former Mount Lebanon star running back, Patrick Smith, leaping over defenders prior to being tackled by North Hills High School star Eric Renkey. Dr. Patrick Smith is now Clinical Faculty in the Department of Orthopaedic Surgery at UPMC.

Fig. 2 Dr. Volker Musahl (left) and Dr. Freddie Fu (right). Dr. Fu was the first Head Team Physician for Mount Lebanon High School Football and served from 1982 to 2010. Since 2010, Dr. Musahl has served as Head Team Physician

Most high schools also had alumni who were NFL legends, including St. Justin's (Johnny Unitas—NFL Hall of Fame, 3×Most Valuable Player (MVP), Super Bowl Champion, Pittsburgh Steelers 1955, Baltimore Colts 1956–1972, San Diego Chargers 1973), Mount Lebanon (John Frank—2×Super Bowl Champion, San Francisco 49ers 1984–1988), Uniontown (Chuck Muncie—New Orleans Saints 1976–1980, San Diego Chargers 1980–1984), Carlynton (Bill Cowher—NFL Hall of Fame, Super Bowl Champion, NFL Coach of the Year, Pittsburgh Steelers Head Coach 1992–2006), Fort Cherry (Marty Schottenheimer—NFL Player from 1965 to 1971, NFL Coach of the Year 2004), Ringgold (Joe Montana—NFL Hall of Fame, 4×Super Bowl Champion, 3×Super Bowl MVP, 2×MVP, San Francisco 49ers 1979–1992, Kansas City Chiefs 1993–1994), Hopewell (Tony Dorsett—NFL Hall of Fame,

Fig. 4 UPMC orthopaedic surgery residents and athletic trainers providing medical care at South Park High School (left), South Fayette High School (middle), and West Allegheny High School (right)

Super Bowl Champion, Dallas Cowboys 1977–1987, Denver Broncos 1988), Aliquippa (Mike Ditka—NFL Hall of Fame, 2× Super Bowl Champion, 2× NFL Coach of the Year, Chicago Bears 1961–1966 [player] and 1982–1992 [coach], Philadelphia Eagles 1967–1968 [player], Dallas Cowboys 1969–1972 [player] and 1973–1981 [coach], New Orleans Saints 1997–1999 [coach]), East Brady (Jim Kelly—NFL Hall of Fame, Houston Gamblers 1984–1985, Buffalo Bills 1986–1996), Beaver Falls (Joe Namath—NFL Hall of Fame, Super Bowl Champion, Super Bowl MVP, New York Jets 1965–1976, Los Angeles Rams, 1977), and Central Catholic (Dan Marino—NFL Hall of Fame, 1 x MVP, Miami Dolphins 1983–1999).

Unsurprisingly, the UPMC team also met local high school players who would pursue careers in medicine and join them as future orthopaedic residents and clinical faculty. These include Mount Lebanon alumni Patrick Smith and Edward McClain Jr., as well as Greensburg Central Catholic Alumnus Michael McClincy. Paul Failla, son of former UPMC orthopaedic resident and Pittsburgh Pirates team doctor Jack Failla, played at North Allegheny High School and went on to both start at quarterback and play baseball at Notre Dame.

Today, UPMC Sports Medicine supervises the coverage of over 60 high school football teams and provides on-site, sideline care for every football game at 25 high schools. Further, 15 colleges are covered, including Carlow University (Dr. Melissa McLane), Carnegie Mellon University (Drs. Bryson Lesniak and Kelley Anderson), Chatham University, Duquesne University (Dr. Kentaro Onishi), La Roche College, Lycoming College, PA College of Technology, University of Pittsburgh-Greensburg, Point Park University (Dr. Kelley Anderson), Penn State Greater Allegheny, Robert Morris University (Drs. Carola van Eck and Timothy Dancy), Saint Francis University, Saint Vincent College (Dr. Jeanne Doperak), Thiel College, and the University of Pittsburgh (Drs. Jeanne Doperak, Elizabeth Herrman, Bryson

Lesniak, Volker Musahl and Steven Rabuck). The team of providers includes the departments of Orthopaedic Surgery, Physical Medicine and Rehabilitation, Athletic Training and Development, and Physical Therapy. UPMC has provided high-quality comprehensive care ranging from injury prevention, to acute care and to rehabilitation. This has not only improved the health and safety of surrounding communities but has become an integral part of UPMC orthopaedic surgery residents' sports medicine training. Beyond sports medicine, the relationship between UPMC and high school

Fig. 5 UPMC physicians, orthopaedic surgery residents, and athletic trainers providing medical care at Heinz Field (top left; WPIAL championship game), Derry Area High School (top right), Ambridge High School (bottom left), and Fox Chapel High School (bottom right).

Fig. 6 Mount Lebanon High School football Head Team Physician, Dr. Volker Musahl, with orthopaedic surgery resident Zach Herman (left) attending a 36–13 Mount Lebanon victory.

football has allowed generations of healthcare providers to learn about and experience the many fascinating communities throughout western Pennsylvania.

Coming from a humble background of providing care for patients of one city high school, Dr. Freddie Fu was able to build not only an entire division of sports medicine within the Department of Orthopaedic Surgery at the University of Pittsburgh, but set a standard for many Sports Medicine centers nationally and internationally. Dr. Freddie Fu united the leadership of the City of Pittsburgh, the Pittsburgh Steelers football team, and the University of Pittsburgh to build a state-of-the-art Center for Sports Medicine that is second-to-none and has been duplicated by many worldwide. In fact, locally the Pittsburgh Penguins and UPMC have built a second sports medicine center using the same inclusive and collaborative model. In his honor, the sports complex in Pittsburgh was renamed the UPMC Freddie Fu Sports Medicine Center in 2018 (Fig. 1). In summary, and in the words

Fig. 7 Dr. Freddie Fu with the UPMC team of orthopaedic surgery residents, physical therapists, and athletic trainers who provide medical care for high school and collegiate football teams, inside the Freddie Fu Sports Medicine Center.

of Freddie Fu “take good care of your patients, and they will take good care of you.” (Figs. 2, 3, 4, 5, 6, 7).

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