

Understanding Arm Care And Long Term Development of the Baseball Athlete

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Edge Performance Systems
New England Baseball Complex

Goals for Today

- Understand the “big picture” for long term development and all its components
- Basics of a solid yearly throwing program
- Understand how NOT to ruin your kids enjoyment of sport
- Easy to implement strategies that make it *effective and enjoyable*
- Debunk the myths

Talking Points

- Typical Injuries
- Playing multiple sports
- Strength and Conditioning
- Importance of Rest
- Skill Acquisition
- Throwing Program
- Developing a pitcher

Goal Numero Uno

- In order to get good at a sport *your child needs to enjoy/be passionate about it*
- SO DON'T RUIN IT REMEMBER ITS ABOUT THEM NOT YOU
- If your child enjoys a sport provide them with *sensible* opportunities to get better at said sport

Big Picture

- Your kid isn't going to make a living playing this sport
- Sports teach LOTS of great lessons
- Keep things in perspective
- If your kid enjoys a sport it is more fun to be good at it

Big Picture

- Development occurs *over the years* NOT in one contest or practice
- Kids will naturally become more athletic over the years
- Physical Capability vs. Specific Skill vs. Sport "Knowledge"

Physical Capabilities

- Strength
- Explosiveness
- Speed
- Size
- Coordination
- Etc.

Specific Skill

- Hitting
- Throwing
- Pitching
- Fielding
- Base Running

Sport “Knowledge”

- Situational Understanding
- Experiential Knowledge
- “Understanding the Game”

Goals

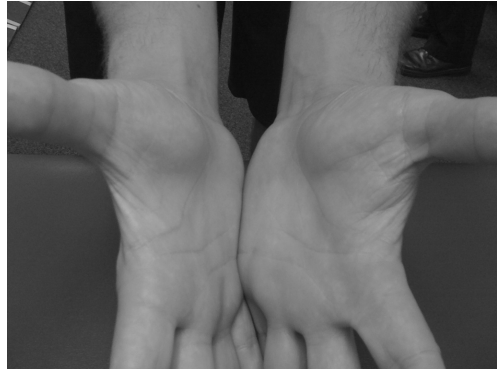
- Safely maximize physical development with age appropriate methods
- Work to develop/refine skill in a smart way
- Develop knowledge through playing, practicing, watching, discussing

Typical Injuries

- You can substantially decrease risk of injury with a smart approach
- Injury = lost participation, lost development opportunities
- Time = time spent healing, time spent reconditioning, time spent getting back to prior skill levels
- Psychological cost to young athletes

Typical Injuries

- Growth Plate Injuries - long time
- UCL - probably 1.5 years, need a full season to get back
- Tendonitis/opathy - 2-8 weeks
- Operative labral/rotator cuff tears - probably never the same (difficult for a fully mature professional)
- Ulnar nerve issues - long time



Play Multiple Sports

- Just about all good athletes played multiple sports
- Enhances athletic development
- Decreases risk of “overuse” type injuries
- Learn varied movement skills
- It’s fun
- Make more friends

Multiple Sports

- Diminishing returns with early specialization
 - Long season wears them down
 - Become disengaged
 - Start to hate it
 - Get hurt
 - Timing of skill practice relative to season

Multiple Sports

- Profit Motive Can Ruin Things
 - You can do skill stuff year round people are willing to take your money
 - Explosion of travel teams/tournament teams/fall ball teams/etc.
 - Don't succumb to peer pressure/keeping up with the Jones'

Strength and Conditioning

- FACT: being bigger/faster/stronger/more explosive/injury resistant/well conditioned will make you better in what ever sport you play. Period.
- Being superior to your peers in these areas will give you a huge advantage
- The earlier your kid learns good habits and develops a routine the better - many never learn them

Strength and Conditioning

- Very simple - its exactly what it says
- Become a better athlete
- Learn nutrition/how to eat
- Learn how to recover, importance of sleep
- Learn how to keep what you gained in the off season during your season

Strength and Conditioning

- Gain lean mass/improve body composition
- Gain strength
- Improve explosiveness
- Enhance core/spinal stability
- Develop shoulder complex strength and fatigue resistance
- Build cardiovascular fitness/fatigue resistance

How Old?

- Generally 12-13 years old
- Depends on individual's level of development/physical maturity - give it the eyeball test
- Easy to make physical gains - hormonal profile, sleep profiles, low stress time of life, appetite
- Show up for workouts; do said workouts. Then eat and sleep. Consistency is KING.

Have a Plan

- THE OFF SEASON IS THE TIME TO MAKE GAINS!!!!
- During the off season more of the "pie" should be dedicated to this, not baseball work - work out 2-4x/week
- In season = goal is to maintain or at least *slow the decline* - 1-2x/week... "flip the pie"

Rest

- Kids should have one to three days off per week from sport
 - Allows them to be a kid
 - Break from the repetitive stresses of their sport - very important
- Establish good sleep habits at a young age
 - Regular, reasonable bedtime
 - NO SCREEN TIME for 60' prior to bed

Rest

- Build in rest periods through the year
 - A prolonged period - e.g. when playing another sport
 - Between seasons - e.g. summer ball and fall ball
 - Weekly - one to three days off per week
 - Small breaks - as schedule allows
 - For parental sanity: a period of nothing

Rest

- Young baseball players should have a prolonged period of no throwing - anywhere from 3-5 months depending on age (professionals take at least two months)
- Again, depending on age, you need to closely monitor how much pitching a young player is doing - and this includes bullpens, flatgrounds, and actual pitching

Rest for Pitchers

- Adjust volume, intensity, and frequency based on:
 - Where they are at in their calendar
 - How they feel
 - What recent throwing/pitching has been (e.g. w rain, or frequent outings)
- "Every throw should have a purpose"

Throwing Programs

- This is the most overlooked piece of youth baseball
- Partly a function of scholastic rules
- HUGE for injury risk reduction
- This is how you develop a strong, resilient throwing arm - whether you are a position player or a pitcher

Key Considerations

- Where are you on the calendar?
 - Preseason, early/mid/late season, summer or fall ball? Or offseason?
- What space/throwing partners do you have available, if any?
- What position?
- Injury history?

Key Variables

- Frequency - how often?
- Volume - how much/many?
- Intensity - how far/perceived intensity?

Frequency

- FIRST: you must know what will be your normal workload - e.g. if you are expected to be able to throw 5-6 days per/week, you should be able to do this when your season/practice starts

Frequency

- Gradually build - start with 2x/week for maybe the first two weeks, building to 5-6 days over the course of 6-8 weeks
- Start with rest day after every session, build to consecutive days around week 4-5 (e.g. two days on one day off)
- Adjust down by age/physical maturity (maybe only capping at 4 days/week for under 12)

Frequency

- Don't be afraid to take a day if arm feels excessively sore early on
- For more physically mature players - soreness not necessarily a stop sign, esp mid to late season- throwing while sore will
- Teach the thrower teach the thrower what works for them to get their arm loose
- Teach them to use every other part of their body but their arm

Volume

- Volume = number of throws (and at what distances)
- Two ways of looking at volume:
 - Same session: how many throws in one session
 - Cumulative: how many in a week
 - Lets say you want to get 200 throws in over a week: you can spread that over more sessions to decrease arm stress

Volume

- The goal is to “grow a callus” *for when you will need it*
- *Tissues will adapt to the stresses you place on them*
- So: we are trying to develop the athlete’s ability to withstand throwing a lot at varying intensities

TRUTH:

- THERE ARE ONLY SO MANY BULLETS IN THE GUN
- *EVERY THROW SHOULD HAVE A PURPOSE!!!*
- So - don’t waste throws when you don’t need them - this is one reason volume needs to be zero for a prolonged period of time

Volume

- Start low, gradually build over the weeks
- Low volume/freq then Low volume/increasing freq then increasing volume/high frequency
- Stick to the plan!!!!!!
- And be sure to specify volumes at each distance - when stretching distance start with low vol, building it before progressing in distance

Example

- 12 year old thrower
- Weeks 1+2 = 2 sessions/wk, 25 throws week 1, 30 week two
- 3+4 = 3 non consecutive sessions, 30/35
- 5 = 3 non consecutive 40 throws
- 6+7 = 4 sessions; 1 back to back week 6, 2 week 7; 40-45 throws (subject to adjustment)

Intensity

- How hard are you throwing the ball?
- Pre-season: should gradually build
- In-season: varies based on workload, competition schedule, where the pitcher is relative to appearances
- Two ways of gauging: distance, or just perceived intensity (especially in New England)

Distance

- "If you can throw a ball far you can throw it hard." - Rick Knapp
- Inarguable logic
- *However - I'd add: with good mechanics/launch angle - you get too far and you start to mess with your "launch angle" and that doesn't help pitchers or infielders
- **If an outfielder needs to make that throw they need to practice it

Example

- Same 12 yo
- Weeks 1+2: 25/30 throws working way back to 60'-75'; 5 throws at distance week one, 10 week two
- Weeks 3+4: 30-35 throws working back to 75'-90', with 10 throws at distance
- 5+6: working back to 90'-105' with 10/15 throws at distance

In Season

- Develop a good warm up routine - can be different for different players
 - Just make sure its not mindless throwing and talking
- Look at the weekly calendar - practices, games, etc. Scheduled pitching?
- Schedule more intense throwing prior to a day off - higher volume/intensity

Tips

- Keep a log
- Be consistent and disciplined
- Keep rest as rest
- Use a step behind with your throwing
- Be flexible based on how you feel, and what schedule/life will allow (rain, conflicts, access to throwing space/partner)

Skill Acquisition

- Need good, quality reps/instruction, *at an appropriate time relative to season (pitching lessons in november?)*
- Learn and practice the skill when they will have a time to consistently use it, and at a time that is in proximity to their season
- This is learning - they are trying to learn a skill, which involves the brain

Skill Acquisition

- Simple to complex
- Conscious to Subconscious
- Break things down to simple components
- MASTER FUNDAMENTALS
- Practice SIMPLE cuing - don't confuse them
- Have a plan
- Think about the components of a task

Pitching

- Priority numero uno: develop a strong throwing arm, with consistent, sound throwing mechanics
- Being a good pitcher at a young age (8, 9, 10) means nothing
- If anything pitching consistently at a young age subjects the young arm to unnecessary stresses

Pitching

- Do NOT overuse your young kid pitching under ANY circumstances - I don't care how "good" ("less bad?") they are
- Forget about breaking balls until:
 - Somewhat skeletally mature
 - Consistently repeat and command the fastball - THROW STRIKES

Pitching

- Starts with MINDFUL throwing - every throw has a purpose
- Focus on repeating the same mechanics with catch/long toss
- Throw with intent

Flatground Work

- Invaluable component of preparation - less stressful on the arm
- Do at the end of a throwing session - bring it back in to distance
- Stretch or wind up
- Keep it low volume - maybe 20 pitches - allows for more frequent repetition
- Start with just fastballs; then change up; eventually breaking pitches

Flatground Work

- Is lower stress on the arm due to no downhill
- Allows for repetition/refinement due to more frequent reps
- This is your “practice” between mound sessions
- Start maybe late in week three of your throwing - fifteen fastballs
- Do 1-2x week

Mound Work

- Is exceptionally stressful on the arm
- Due to the drop in height - places additional force vectors and magnitudes on the elbow and shoulder
- Must be done at the right time
- Do not waste these sessions
- Start with once a week; first session maybe 25 pitches all fastball

Mound Work

- Are you ready? The goal pre season depends on age but for example:
 - Throw 50 pitch BP twice
 - Mix all pitches
 - Get up/down to simulate break of inning - maybe throw 25, take 10' break, throw another 25

Summary

- Your kid has to enjoy the sport
- Get good quality strength and conditioning as soon as they are ready
- Don't forget about rest
- Play multiple sports
- Quality skill work at appropriate time
- A planned throwing program is essential