Baseball pitching analysis in Qualisys Track Manager

Pitching is a complex three-dimensional movement. Combine our motion capture technology with a unique baseball analysis package to assess pitching in three dimensions and without simplifications.

The Baseball Module takes advantage of the Project Automation Framework (PAF), an add-on to the QTM software that helps you manage and capture your data. The PAF guides you through the data collection process and connects QTM directly with the analysis software Visual3D to immediately produce a report analyzing the player’s form in 3D.

The analysis is executed automatically, providing the end user with a full report including measurements of angles and rotations performed during the capture—full documentation is included.

FEATURES

- All relevant biomechanical variables
- Full body marker set for accurate tracking of 15 body segments
- Easy data management
- AIM Model adapted for pitching
- Suitable for left-handed and right-handed pitchers
- Interactive Web Report
CONCEPT
The processing pipeline focuses on the pitching movement and has been developed in cooperation with leading baseball experts. Outputs include indicators of performance as well as injury risk.

PROCESS
During data collection, you can focus on your client instead of technical details. PAF offers a list of pre-defined measurements when creating a session in a guided panel within the QTM software, making data collection quick and easy. With the click of a button, events are identified, biomechanical calculations performed, and a report is populated with the results.

REPORT
Using the full body marker set, the package automatically generates a report that includes variables such as stride length, shoulder rotation on various planes, angular velocities of the shoulder, and others, including a kinematic sequence.

Brandon Young of B Young Physical Therapy analyzes his athlete’s pitching form using the Qualisys Baseball Module.

MODULE OPTIONS AND REQUIREMENTS

<table>
<thead>
<tr>
<th>Module</th>
<th>Marker set</th>
<th>Cameras (min)</th>
<th>Room size (min)</th>
<th>Processing engine</th>
<th>Report</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseball</td>
<td>Full body</td>
<td>10</td>
<td>4 x 6 m</td>
<td>Visual3D, Web</td>
<td>Visual3D, Web</td>
</tr>
</tbody>
</table>

Precise 3D tracking

- Track the movements of the pitcher in all three dimensions with sub-millimeter precision.
- Use inverse kinematics (IK) to minimize skin movement artifact when tracking shoulder rotations.
- Generate an online report with all relevant measurement results and space for your logo. Generate a sharable link with one click.