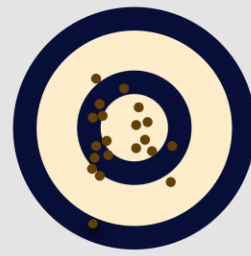# ORION
SCORING SYSTEM

Daisy National BB Gun Championship

Advance Topics: Online Results

Erik Anderson Ph.D.

Shooter's Technology LLC

3 July 2016

# Logistics

- Team Leaders Briefing
  Saturday14:15 to 15:00, team coaches only.
- Stat Officers and Coaches Clinic
  Sunday 10:00 to 11:00, open to all.
- *Orion's Advance Topics: Online Results*
  Sunday 13:00 to 14:00, open to all but intended for experienced Orion users.
- Please ask questions, make comments.
- Today's presentation available for pickup. Tomorrow's presentations via email.
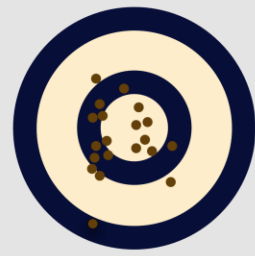 www.orionscoringsystem.com/52

Read More
Past Clinics and Videos
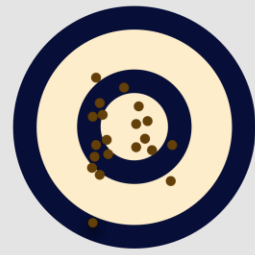Join Orion's Email List
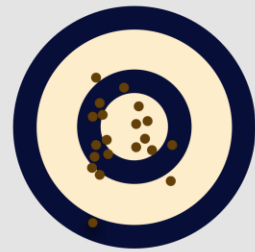
Agenda

- What's New in Orion
- Online Results
- Virtual Matches
- Coaching Analysis with Orion

Agenda

- **What's New in Orion**
- Online Results
- Virtual Matches
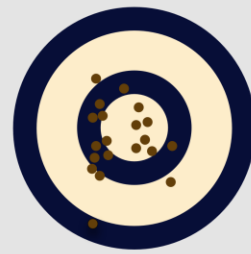- Coaching Analysis with Orion

Orion National BB Gun League

- National team competition for all BB Gun teams.
- Organized and managed by Orion.
- Held every year, January through March/April.
- Teams organized into divisions according to skill level or geography.
- Low cost, $60 per team.
- Weekly Press Releases for every game.
- Lots of awards, nearly 30% of participating teams will get medals, everyone gets a participation pin.

**Read More**
Facebook Page
League Program

Divisions

- Skill level divisions:
    - Teams grouped together based on historic performance regardless of geography.
    - Top teams compete against each other in the Champions Division.
    - Additional divisions are added based on skill level and number of teams. Distinguished, Elite, Governor etc.
    - All games are virtual.

- Geography divisions:
    - New for 2017.
    - Teams grouped together by special request.
    - 6 to 12 teams in a division.
    - Games can be virtual or local.
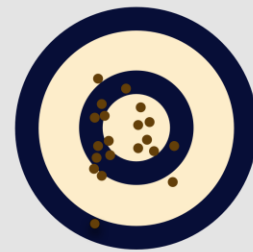
Welcome Screen

One click to download Virtual Matches (Games) and create Matches from stored Favorites.

Create a custom match.

Recent Matches

RSS Feed from Orion

Result Center statistics.

License Information. New licenses are automatically downloaded.

Orion software updates.

Welcome to the Orion Scoring System
Orion Scoring System
Account Number 1

Create a New Match ☐ Enable Online Results

West Potomac vs Robinson
Default 3P Air Rifle
Default BB Gun

Create a Local Match   Create a Virtual Match

Open a Recent Match

West Potomac vs Robinson
Match 08 Jun 2016 BB Test
Match 13 Jun 2016
Daisy National BB Gun Championship 2016

News and Updates

Orion 50ft Pistol Targets are now avaliable
Orion 5 Bull Air Rifle Targets are now avaliable
Participate in Orion's Monthly Virtual Matches
Order Orion Targets, Scorecards, and supplies.
Like us on Facebook!

Result Center
Recent Matches: 30
Number of Starts: 1506
Number of Page Hits: 24312
Your team's Home Page

License Information
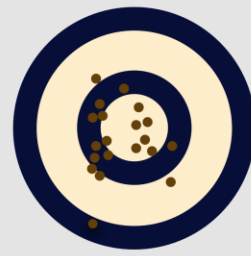Your Orion license will expire in approximately 12 months.

Your Software is Up to Date
Installed Version: 2.3.30
Production Version: 2.3.30

Read More
Welcome Screen

Match Favorites

- A Match Favorite allows you to save the settings for a Match, and reuse those settings in a new match later.

- Creating a Match from a Favorite is done from the new Welcome Screen.

Updated Category Fields

- "Category Fields" let you track additional information about your Favorite Athletes.

- List of available Category Fields expanded to include most of NRA, USAS, CMP, ATA, and NSSA classifications

Database Properties   ✕

Shooting Styles | Memberships | Category Fields | Basic

- ☐ Distinguished Rimfire Pistol
- ☐ NMAR Equipment Class
- ☐ NRA BB Gun Classification
- ☑ NRA Conventional Position Classification
- ☐ NRA High Power Rifle Classification
- ☐ NRA Indoor Pistol Classification
- ☐ NRA Metric Position Classification
- ☐ NRA Outdoor Conventional Prone Classification
- ☐ NRA Outdoor Metric Prone Classification
- ☐ NRA Precision Air Rifle 3-Position Classification
- ☐ NRA Precision Air Rifle Standing Classification
- ☐ NRA Silhouette Classification
- ☐ NRA Sporter Air Rifle 3-Position Classification
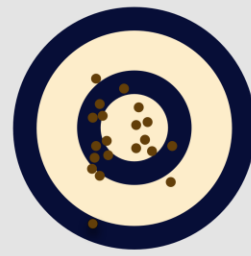- ☐ NSSA Skeet Classification
- ☐ PPP Position

Save   Cancel
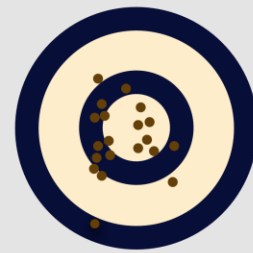
50ft Smallbore Pistol

- NRA's Gallery Course.
  - 30, 60, and 90 shot variations.
- CMP's Presidents and National Match Course.
- Scorecards for 25yd and 50yd competitions.

Read More
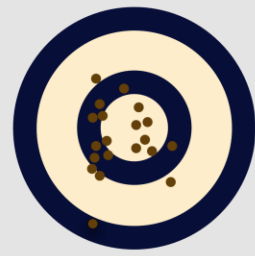50ft Slow Fire Target
50ft Timed and Rapid

Cloud Backup

- Orion can backup both Athlete Database and Match files to Cloud (offsite) storage.

- Recommended to always backup at least your match files.

  - Include Images files If you have a good Internet connection.

- Automatically backs up data every 15 minutes.

- Data files can easily be restored if needed.
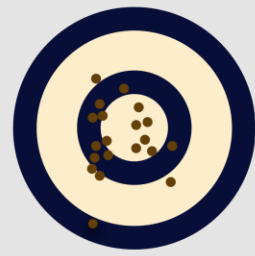
- Requires free update to license.

Read More
Cloud Backup
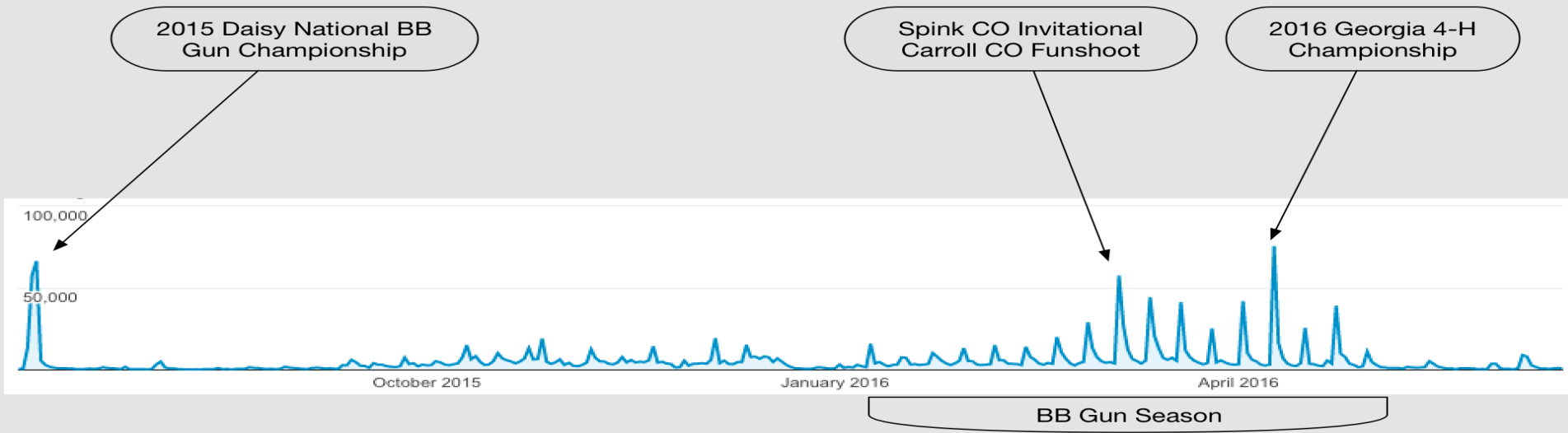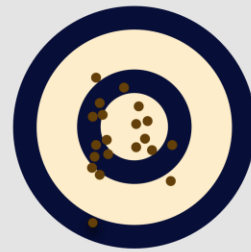Minimizing Computer Problems

Agenda

- What's New in Orion

- **Online Results**

- Virtual Matches

- Coaching Analysis with Orion

Popularity of BB Gun

- The BB Gun community has embraced online results.
- 12 of the top 15 matches, since 2014, are BB Gun matches.
- Heaviest days are due to BB Gun matches.

2015 Daisy National BB Gun Championship

Spink CO Invitational Carroll CO Funshoot

2016 Georgia 4-H Championship

100,000

50,000

October 2015   January 2016   April 2016

BB Gun Season

Orion's Result Center: Page Hits per Day

Result Center

- www.orionresults.com

- Integrated online results.

  - Every club gets their own page.

  - Orion uploads scores automatically.

- Available for *any* Orion scored match.

- Included in Orion license fee.

Read More
Enable Result Center
Upload Results

Building Your Team Page
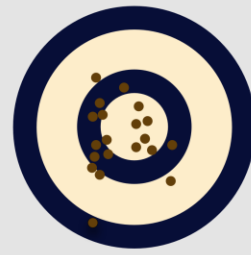
- Enabling the Result Center is done at www.orionscoringsystem.com

- Enabling is required for any Result Center service, results, Virtual Matches, leagues, etc.

- Contact, Team and Range information is optional but recommended.

Orion Online Settings

Orion Online Settings for Orion Scoring System

☑ Enable Orion Result Center

By enabling Result Center, you agree to the Result Center Terms and Use.

☐ **Automatically Make Visible New Matches Created by Other Users**

Home Page: http://www.orionresults.com/ shooterstech

- By enabling the Result Center, Orion online service, you will have your own website hosted by Orion. With it you will be able to post results, participate in Virtual Matches, and promote your club or team.
- If the service is disabled, none of your club's or team's information will appear online.
- If the Result Center is enabled your club or team will be able to participate in Virtual Matches and Leagues created by other Orion users. When a club adds you to a Virtual Match or League you have the option of either automatically making that match visible on your home page, or choising to wait until after you have downloaded the match to your Orion.
- The Home Page URL is the quick link you can use to go to your team's Orion website. The path information should be easy to remember but meaningful to your team. You may update the path as many times as you like, however after you change it the previous paths will fail to work. The path must be in all lowercase and 32 characters or less.

Your Information

The following information *will be displayed within the Result Center website* (if you enabled the service). While not required, completing this information is recommended.

Head Coach	Erik Anderson
Email	erik@shooterstech.net
Phone	703 596 0099
City, State, Postal Code	Bristow Virginia 20136
Country	United States
Website	http://
	www.orionscoringsystem

Additional Contact Information

Shooter's Technology is the company that develops and distributes the Orion Scoring System. Our offices are located in Bristow, VA. You may contact us during normal business hours of 10AM to 6PM T-F, and 9AM to 4PM on Saturdays.

Team Description

Range Facilities

Each month we organize a series of Virtual Matches. One each for three-position air rifle, air pistol, BB gun, and 50ft prone. Their intent is to have a fun way to participate while allowing shooters and teams to compare their scores with others within their state and across the country. They are open to all Orion license users.

Read More
Enable Result Center
Upload Results
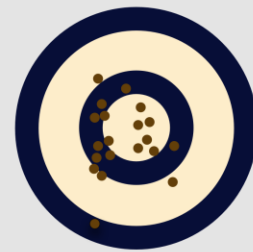
Uploading Results

Turns Internet Results on or off.

Optional but recommended fields. City and State required for Virtual Matches.

Tournaments group matches together.

City and State become the default address for all competitors. Always use 2 letter state code.

Match Properties

Match Name: BB Gun Test Match

Image Directory
  C:\Users\Erik\Documents\My Matches\BB Gun Test Match

Match File: BB Gun Test Match.xml

| Basics / Rulebook | Course Of Fire | Result Center | Comp. Num. | Sanctioning | Categories |

☑ List and Report Scores Online

Contact Information

Match Director: Erik Anderson

Email: support@shooterstech.net

City: Bristow   State: VA   Zipcode: 20136

Phone Number: 703 596 0099   Country:

If enabled, this match will be listed in the Result Center and the information will be displayed online. The city and state fields are required for Virtual Matches. All other fields are optional.
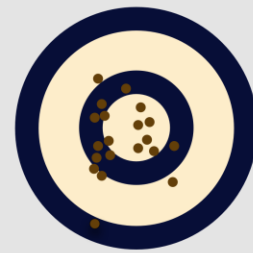
Tournaments
☐ Orion's Three Position Air Rifle Virtual Matches
☐ Orion's Standing Air Rifle Virtual Matches
☐ Orion's Air Pistol Virtual Matches
☐ Orion's Three Position Smallbore Rifle Virtual Matches
☑ Orion's BB Gun Virtual Matches

Save   Exit

Read More
Upload Results
Create a Tournament

Result Center Home Page

- www.orionresults.com
- Home page lists recent popular matches.
  - Based on start and end date of the match, how many visitors, and how many athletes.
- Tournaments and Leagues listed first.
- Mobile version coming soon.

Orion Result Center

Result Center's Home | Recent Competitions | Upcoming Matches | Team Home Pages | Join Orion's Email List

Search: [_____] Search

Recent Popular Results

Tournaments and Leagues

Laramie County 4-H 2015 County Shoot	Laramie County 4-H	06 - 13 Jun 2015	Cheyenne, WY
Weld County 4H Invitational 2015	Weld County 4H Shooting Sports Council	Sat, 06 Jun 2015	Fort Lupton, CO
Georgia Daisy National Teams Tournament	Walton County 4-H	30 May-30 Jun 15	Monroe, Ga
Texas 4H District 9 Shooting Sports Tournament 09	Montgomery County 4H Shooting Sports	Sat, 09 May 2015	
Orion's Monthly Virtual Matches - May 2015	Orion Scoring System	01 - 31 May 2015	Bristow, VA
Orion's Monthly Virtual Matches - April 2015	Orion Scoring System	01 - 30 Apr 2015	Bristow, VA
TMU Two Gun PTO and State Championship Tournament	Taunton Rifle and Pistol Club	28 - 29 Mar 2015	Taunton, MA
SD American Legion	Marshall CO	19 - 22 Mar 2015	

Air Rifle

Match 15 Jun 2015	Franklin County High School	Mon, 15 Jun 2015	Wirtz, VA
15 AIR 06 jun 13	Bend of the River	Sat, 13 Jun 2015	Cookeville, TN
Match 12 Jun 2015	Franklin County High School	Fri, 12 Jun 2015	Wirtz, VA
CMP ACES Practice Standing 08 Jun 2015	Gopher Rifle and Revolver Club	Mon, 08 Jun 2015	Forest Lake, MN
CMP Postal Practice June 8 2015	Gopher Rifle and Revolver Club	Mon, 08 Jun 2015	Forest Lake, MN
15 AIR 06 Jun 6	Bend of the River	Sat, 06 Jun 2015	Cookeville, TN
Weld 4H Invitational 2015 - Air Rifle Olympic Off-	Weld County 4H Shooting Sports Council	Sat, 06 Jun 2015	Fort Lupton, CO
Weld 4H Invitational 2015 - Air Rifle Precision	Weld County 4H Shooting Sports Council	Sat, 06 Jun 2015	Fort Lupton, CO
Weld 4H Invitational 2015 - Air Rifle Sporter	Weld County 4H Shooting Sports Council	Sat, 06 Jun 2015	Fort Lupton, CO
Match 04 Jun 2015	Franklin County High School	Thu, 04 Jun 2015	Wirtz, VA
Match 04 Jun 2015 2	Franklin County High School	Thu, 04 Jun 2015	Wirtz, VA
SportVereinLeagueNight-20150604	Sportverein Peoria Airgun	Thu, 04 Jun 2015	Peoria, IL
CMP ACES Postal 2nd Quarter Sporter	American Legion Post 290	Tue, 02 Jun 2015	Stafford, VA
Match 02 Jun 2015	Franklin County High School	Tue, 02 Jun 2015	Wirtz, VA
15 Air 05 May 30	Bend of the River	Sat, 30 May 2015	Cookeville, TN
test1	Fairfax 2015 Inc	Sat, 30 May 2015	
Chaparral vs Eldorado Friendly	Chaparral High School NJROTC	Fri, 29 May 2015	Las Vegas, NV
Match 29 May 2015	Franklin County High School	Fri, 29 May 2015	Wirtz, VA
Match 27 May 2015	Franklin County High School	Wed, 27 May 2015	Wirtz, VA
15 AIR 05 may 23	Bend of the River	Sat, 23 May 2015	Cookeville, TN
SportVereinLeagueNight-20150521	Sportverein Peoria Airgun	Thu, 21 May 2015	Peoria, IL
Las Vegas vs Chaparral Friendly	Chaparral High School NJROTC	Tue, 19 May 2015	Las Vegas, NV
2015 Richwoods MCJROTC 3PAR Spring Invitational	Richwoods High School	Sat, 16 May 2015	Monmouth, IL
NRA Open Air Gun Championship Rifle Match 2015	National Rifle Association	06 Feb-13 Apr 15	Fairfax, VA

BB Gun

Match 15 Jun 2015	Laurel Shooting Education Program	Mon, 15 Jun 2015	
National Practice 6/15/15	Gillespie County	Mon, 15 Jun 2015	
Georgia Daisy National Teams Match 3	Walton County 4-H	14 - 20 Jun 2015	Monroe, Ga
15bb06jun13	Bend of the River	Sat, 13 Jun 2015	Cookeville, TN
Nations Practice 10	Carroll County 4-H	Fri, 12 Jun 2015	
Match 11 Jun 2015	Laurel Shooting Education Program	Thu, 11 Jun 2015	
National Practice 6/10/15	Gillespie County	Wed, 10 Jun 2015	
Georgia Daisy National Teams Match 2	Walton County 4-H	07 - 13 Jun 2015	Monroe, Ga
2015 LE County Shoot Air Rifle - Light Target	Laramie County 4-H	06 - 13 Jun 2015	Cheyenne, WY
2015 LE County Shoot Air Rifle - Sporter	Laramie County 4-H	06 - 13 Jun 2015	Cheyenne, WY
2015 Georgia Games (25 Year Anniversary)	Carroll County 4-H	Sat, 25 Apr 2015	Carrollton, GA
Georgia 4-H State BB 2015 Yellow	Georgia 4-H	Sat, 11 Apr 2015	Athens, GA

Get the word out about results
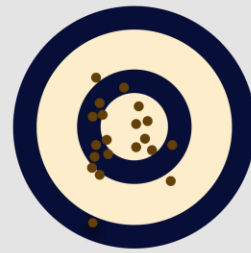
- Shooters, coaches, and spectators want online results.
    - *Its not enough to turn on online results you must communicate to the shooters, coaches, and spectators where they can find the results.*
- List the match URL in the bulletin.
- Make an announcement before and after each relay.
- Post links on social media.
- Print QR codes on the range pointing to the match page.
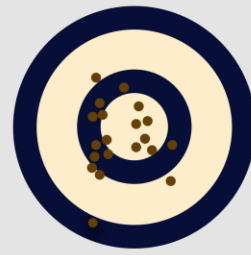   - Orion can generate this page for you.
- Works with matches and tournaments.

2013 Hinds 3PAR Georgia Competitive Shooters

Online Results Avaliable at www.orion

ORION
SCORING SYSTEM

Read More
Printing QR Codes
Creating a Tournament

Scoreboard

- Scoreboard is meant to be projected on the range *during* the match.

- Ranks athletes and teams according to average shot fired.

- Accessible from orionresults.com for any match.

Rank	Participant	Region	Prone	Standing	Sitting	Kneeling	Test	Individual
		Match2014Jul01 BB PreTest						
		Individual - All						
1	Schmidt, David C (3119) Mount Vernon High School, Parent, VA	Parent, VA	94 - 5	83 - 0	88 - 1	86 - 1	100	451 - 7
2	Georgi, Kirsten A (3113) Parent, VA	Parent, VA	88 - 3	73 - 1	89 - 0	88 - 2	98	436 - 6
3	Anderson, Erik E (3110) Shooter's Technology, Bristow, VA Anniston, AL	Parent, VA	83 - 4	81 - 2	93 - 2	84 - 1	88	429 - 9
6	Webb, Daniel I (3123) Parent, VA	Parent, VA	94 - 6	80 - 0	85 - 3	69 - 1	92	420 - 10
7	Simmons, Amanda T (3127) Mount Vernon High School, Child, VA	Child, VA	87 - 3	70 - 0	87 - 0	88 - 2	88	420 - 5
8	Duncan, David P (3126) Potomac High School, Child, VA	Child, VA	79 - 0	82 - 1	85 - 1	74 - 2	96	416 - 4
9	Denver, Christopher (3108) Parent, VA	Parent, VA	89 - 0	55 - 0	90 - 4	93 - 2	88	415 - 6
10	Duncan, David P (3112) Potomac High School, Parent, VA	Parent, VA	67 - 0	82 - 1	84 - 2	81 - 1	100	414 - 4
11	McKenzie, Patrick M (3125) Mount Vernon High School, Child, VA	Child, VA	86 - 0	83 - 4	77 - 0	77 - 0	88	411 - 4
12	Duke, Bo K (3109) Parent, VA	Parent, VA	83 - 0	77 - 0	85 - 0	78 - 2	82	405 - 2
13	Shroyer, Sonny K (3121) Potomac High School, Parent, VA	Parent, VA	89 - 2	66 - 1	66 - 1	81 - 0	100	402 - 4

For complete results visit www.orionresults.com/shooterstech

Read More
Opening the Scoreboard
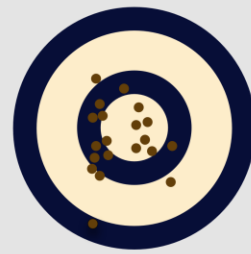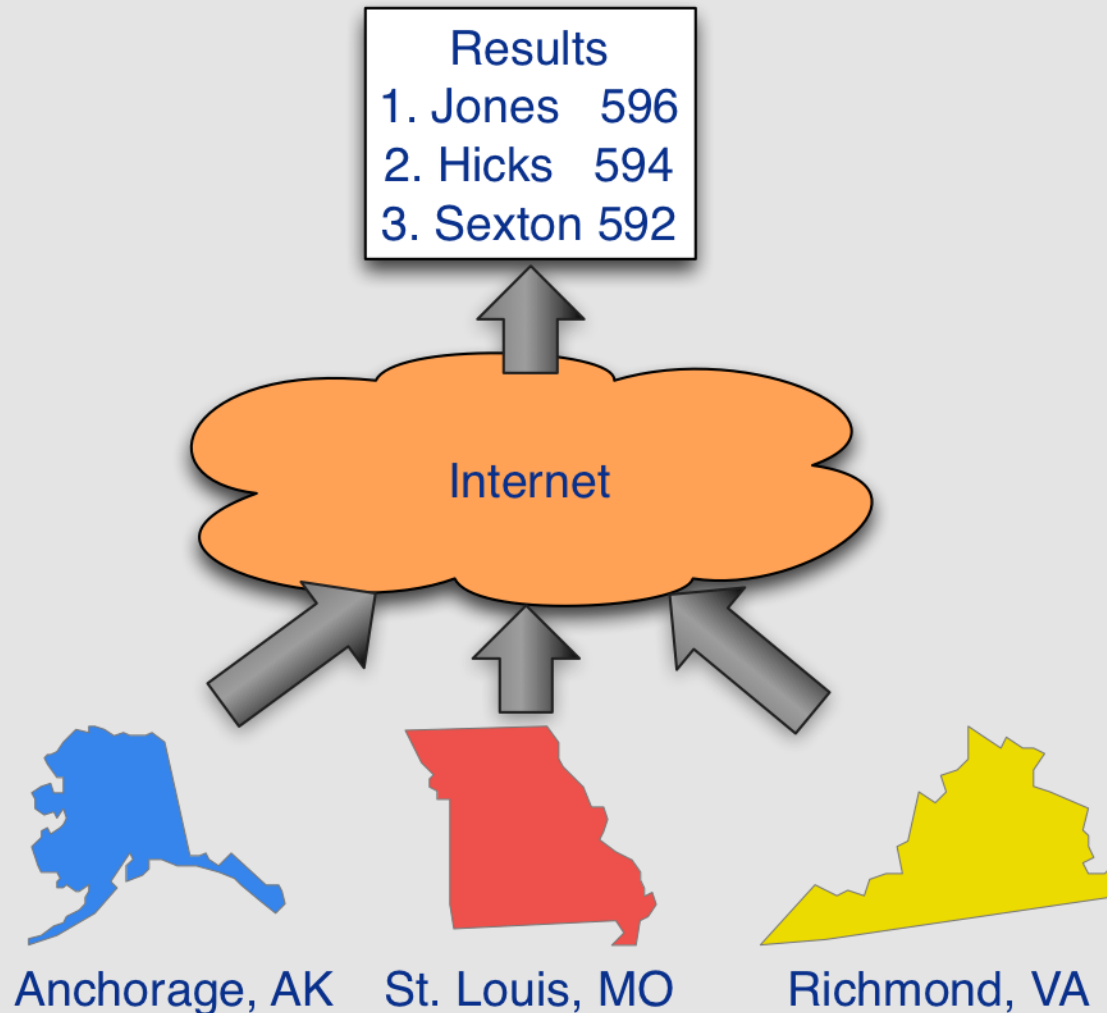Pre & Post Match Write Ups
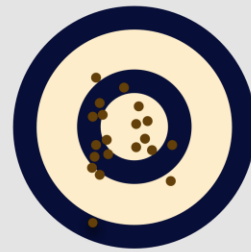
Agenda

- What's New in Orion
- Online Results
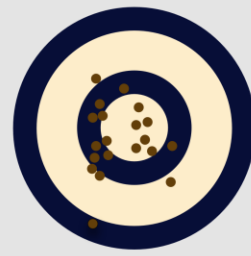- **Virtual Matches**
- Coaching Analysis with Orion

POSTALS ARE DEAD, LONG LIVE VIRTUAL MATCHES

What is a Virtual Match?
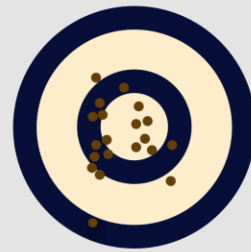
Virtual Match Advantages

- No travel costs.
- Immediate results.
- All scoring is fair and equal.
- Easy to use.
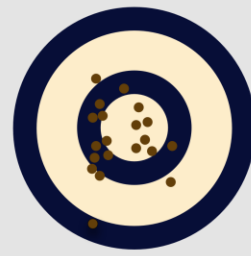- Works with any discipline.

Read More
Create a Virtual Match
Add a Child Match

Uses for Virtual Matches

- Two, or more, teams competing against each other.
- Multi-venue competition.
- Regional match model.
- Large match.
- Merge results from heterogeneous scoring systems.
- League play.

Creating a Virtual match

- To create the parent click on
- 'Create Virtual Match' from Welcome Screen
    - Or 'File' -> 'New Match' -> 'Create a New Virtual Match Parent'
- Match Properties get inherited by children. Therefore its critical to check and double check properties at the time you save them.
- To add children click on 'Match' -> 'Virtual Match Children'
    - Can only add Orion users who have a valid license and enabled Result Center.

Read More
Create a Virtual Match
Add a Child Match

Downloading a Child Match

- Download from the Welcome Screen
  - Alternatively: 'File' -> 'New Match' -> 'Download a Virtual Match Child'
- May only download a VM Child once.
  - Parent may add the same Orion account multiple times to a VM.
- Can not download after the End Date.
- Have until 2 days after the End Date to upload results.
- Distributed Stat Office: VM Parent has no control over the VM children.
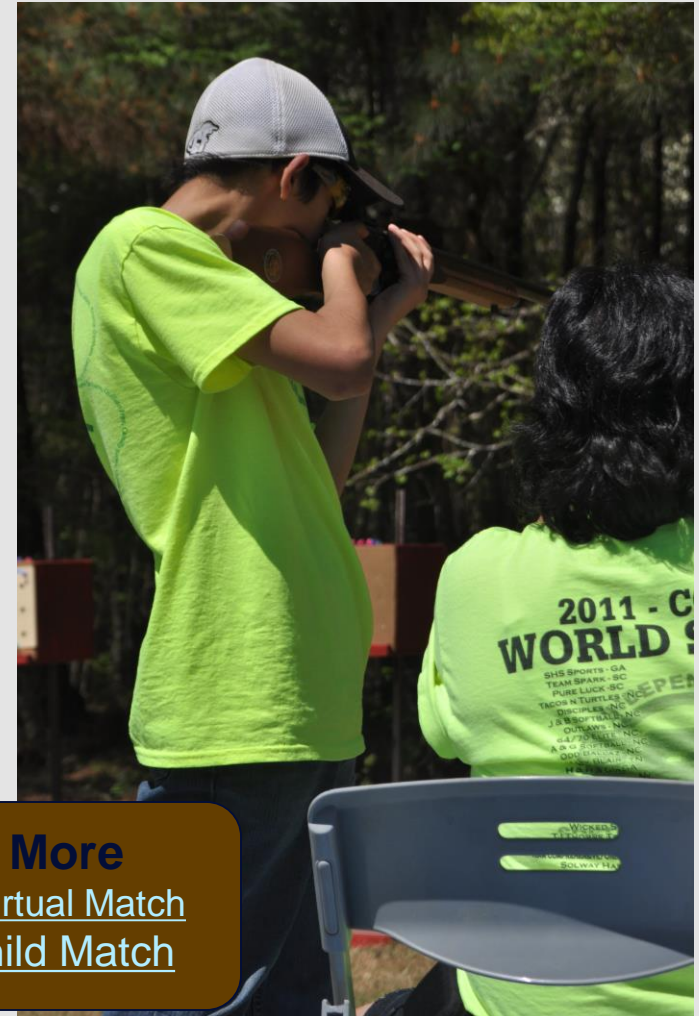
Read More
Create a Virtual Match
Add a Child Match
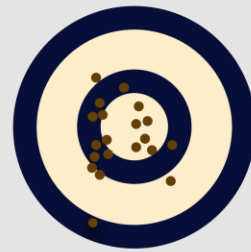
Tournaments

- A Tournament is simply an online grouping of matches.

- Examples:
  - A series of practice matches for a team.
  - A state shoot comprising air rifle, air pistol, and smallbore rifle.
  - A League

Read More
Create a Tournament
Add a Match to a Tournament
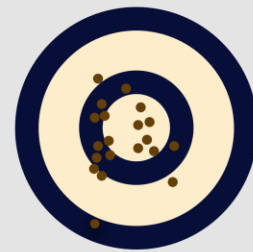
Creating a Tournament

- Create a Tournament click on 'Result Center' and then 'Create a New Tournament'.
  - Contact Information is optional but recommended.
  - May give any other Orion user permission to add a match to the Tournament.
- Tournaments are listed first on Result Center.
- Adding a Match to a Tournament is done through Match Properties.

Read More
Create a Tournament
Add a Match to a Tournament

Joining a Tournament

- Adding a Match to a Tournament is done through Match Properties.

- Orion lists the Tournaments you have joined or may join.

- Can not join a Tournament after the end date for the Tournament.

Georgia Daisy Nation Teams Tournament

- Group of four Virtual Matches, one a week, leading up to the DNBBGCM.
- Each Virtual Match was participated by 6 teams in Georgia.
- Athletes got match experience.
- Clubs did not have any travel expenses.
- Athletes, coaches, and parents had only one website to visit to view results.

Walton County 4-H

Georgia Daisy National Teams Tournament

Result Center's Home Recent Competitions Upcoming Matches Team Home Pages ✉ Join Orion's Email List

Walton County 4-H's Home Recent Result's Upcoming Matches

Georgia Daisy National Teams Tournament Matches Tools

Georgia Daisy National Teams Tournament

Contact William Carlan at 770-267-9124.   30 May-30 Jun 15   Monroe, Ga

Matches		
Georgia Daisy National Teams Match 1	BB Gun	31 May-06 Jun 15
Hosted by Walton County 4-H	Course of Fire: 4x10 with Test	Monroe, Ga
Georgia Daisy National Teams Match 2	BB Gun	07 - 13 Jun 2015
Hosted by Walton County 4-H	Course of Fire: 4x10 with Test	Monroe, Ga
Georgia Daisy National Teams Match 3	BB Gun	14 - 20 Jun 2015
Hosted by Walton County 4-H	Course of Fire: 4x10 with Test	Monroe, Ga
Georgia Daisy National Teams Match 4	BB Gun	21 - 27 Jun 2015
Hosted by Walton County 4-H	Course of Fire: 4x10 with Test	Monroe, Ga

Scoreboard

Georgia Daisy National Teams Match 3 : Individual - All 14 - 20 Jun 2015

Rank	Participant	Region	Prone	Standing	Sitting	Kneeling	Test	Individual
1	King, Chyann (107)	Carrollton, GA	97 - 7	91 - 2	93 - 2	96 - 4	90	467 - 15
2	Burrow, Addy (186910)	Griffin, GA	93 - 4	90 - 2	96 - 6	93 - 2	95	467 - 14
3	Burrow, Sam (11)	Griffin, GA	92 - 3	89 - 1	96 - 5	96 - 4	90	463 - 13
4	Burrow , Jack (177467)	Griffin, GA	97 - 6	92 - 4	98 - 7	95 - 3	80	462 - 18
5	Grubbs, Collin (104)	Carrollton, GA	96 - 4	87 - 1	96 - 5	96 - 6	85	460 - 16
6	Books, Sierra (110)	Carrollton, GA	95 - 4	89 - 1	98 - 5	93 - 2	85	460 - 12
7	Frank, Morgan (103)	Carrollton, GA	97 - 5	89 - 1	93 - 2	88 - 1	90	457 - 9
8	Carroll, Hadley (102)	Carrollton, GA	95 - 6	88 - 2	96 - 4	79 - 0	85	443 - 12

Georgia Daisy National Teams Match 3 : Team - All 14 - 20 Jun 2015

Rank	Participant	Region	Prone	Standing	Sitting	Kneeling	Test	Team
1	Spalding County 1	Griffin, GA	463 - 22	441 - 5	480 - 26	465 - 14	370	2219 - 67
2	Carroll County Guns N' Clovers Team 1 1	Carrollton, GA	385 - 22	355 - 6	378 - 13	359 - 11	350	1827 - 52

Georgia Daisy National Teams Match 2 : Individual - All 07 - 13 Jun 2015

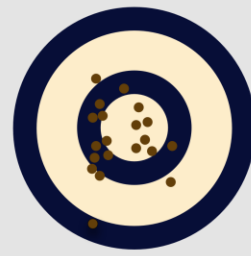| Rank	Participant	Region	Prone	Standing	Sitting	Kneeling	Test	Individual
1	Wood, Matthew (101)	Monroe, Ga.	97 - 6	94 - 3	98 - 6	96 - 6	100	485 - 21
2	Peters, Daniel (118)	Monroe, Ga.	99 - 8	97 - 7	98 - 6	98 - 7	90	482 - 28
3	Peters, Lucy (107)	Monroe, Ga.	99 - 7	96 - 5	96 - 6	94 - 3	90	475 - 21
4	Grubbs, Collin (107)	Carrollton, GA	94 - 4	93 - 3	96 - 5	96 - 5	95	474 - 17
5	Clukie, Janet (114)	Monroe, Ga.	93 - 1	92 - 3	96 - 5	96 - 6	95	472 - 15
6	Hall, Connor (119)	Monroe, Ga.	98 - 6	89 - 1	90 - 1	94 - 5	100	471 - 13
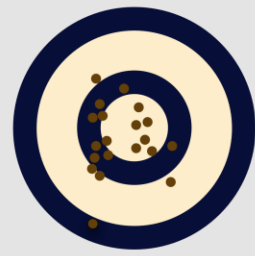
Agenda

- What's New in Orion
- Online Results
- Virtual Matches
- **Coaching Analysis with Orion**
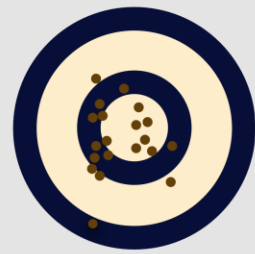
Orion's training goal: Track and provide feedback in the form of quantitative performance-oriented metrics.

Reviewing Test Answers

- Assign the Master Answer Sheet to a participant (which could be a coach).

- Individual Score Sheet, for that athlete, will list what percent each each question's answer was answered.

- Can help identify general knowledge deficiencies in your team.

Master Answer Sheet
Question 1: A=> A 83.3% B 8.3% C 0.0% D 0.0% E 0.0% NA 8.3%
Question 2: B=> A 0.0% B 91.7% C 0.0% D 0.0% E 0.0% NA 8.3%
Question 3: C=> A 0.0% B 0.0% C 91.7% D 0.0% E 0.0% NA 8.3%
Question 4: D=> A 0.0% B 0.0% C 8.3% D 83.3% E 0.0% NA 8.3%
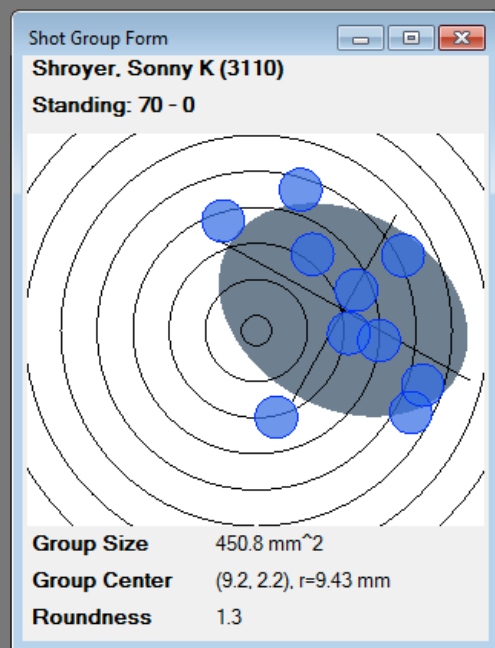Question 5: E=> A 0.0% B 0.0% C 0.0% D 8.3% E 83.3% NA 8.3%
Question 6: A=> A 83.3% B 0.0% C 0.0% D 8.3% E 0.0% NA 8.3%
Question 7: A=> A 33.3% B 50.0% C 0.0% D 0.0% E 8.3% NA 8.3%
Question 8: C=> A 0.0% B 0.0% C 83.3% D 0.0% E 8.3% NA 8.3%
Question 9: D=> A 8.3% B 0.0% C 0.0% D 83.3% E 0.0% NA 8.3%
Question 10: E=> A 8.3% B 0.0% C 0.0% D 0.0% E 83.3% NA 8.3%
Question 11: A=> A 83.3% B 8.3% C 0.0% D 0.0% E 0.0% NA 8.3%
Question 12: B=> A 0.0% B 83.3% C 0.0% D 0.0% E 0.0% NA 16.7%
Question 13: C=> A 0.0% B 0.0% C 91.7% D 0.0% E 0.0% NA 8.3%
Question 14: D=> A 0.0% B 0.0% C 8.3% D 83.3% E 0.0% NA 8.3%
Question 15: E=> A 0.0% B 0.0% C 0.0% D 8.3% E 83.3% NA 8.3%
Question 16: E=> A 50.0% B 0.0% C 0.0% D 0.0% E 41.7% NA 8.3%
Question 17: A=> A 33.3% B 50.0% C 0.0% D 8.3% E 0.0% NA 8.3%
Question 18: C=> A 0.0% B 0.0% C 83.3% D 0.0% E 8.3% NA 8.3%
Question 19: D=> A 8.3% B 0.0% C 0.0% D 83.3% E 0.0% NA 8.3%
Question 20: E=> A 8.3% B 0.0% C 0.0% D 0.0% E 83.3% NA 8.3%
Question 21: A=> A 83.3% B 8.3% C 0.0% D 0.0% E 0.0% NA 8.3%
Question 22: B=> A 0.0% B 91.7% C 0.0% D 0.0% E 0.0% NA 8.3%
Question 23: C=> A 0.0% B 0.0% C 91.7% D 0.0% E 0.0% NA 8.3%
Question 24: D=> A 0.0% B 0.0% C 8.3% D 83.3% E 0.0% NA 8.3%
Question 25: E=> A 0.0% B 0.0% C 0.0% D 8.3% E 83.3% NA 8.3%

Read More
Grading a Test
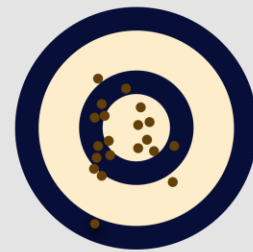
In-Program Analysis

Shot Group Analysis is now internal to Orion

Click (or double click) on a score to see the analysis.
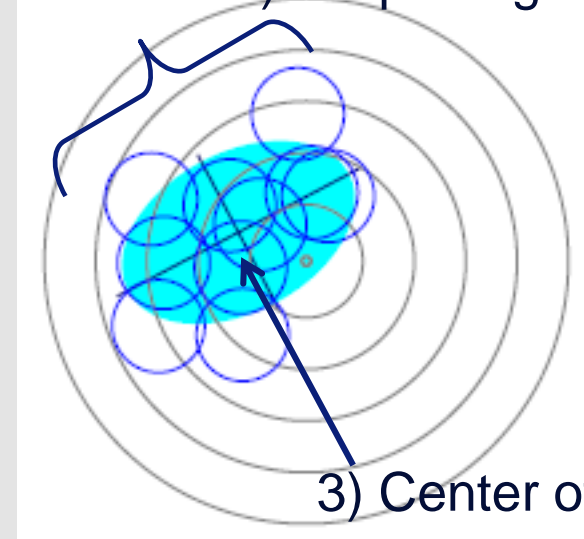
Read More
Shot Group Analysis Metrics

Group Analysis Theory

- Score is only one metric, and often a poor one, describing a shooter's performance.

- Orion's alternative: Analyze the shot group for more meaningful performance-oriented metrics.

Read More
Shot Group Analysis Metrics

Example: A shooter's score may be derived from:

1) Area and 2) shape of group.

3) Center of group.

With each component describing certain characteristics about the shooter's performance.
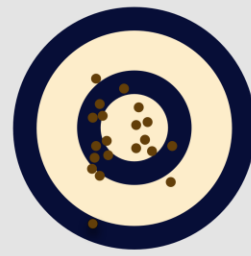
Area and Shape of Group

- Hypothesis: Group area is a better metric to measure a shooter's performance because it strongly influenced by the shooters inner position. The shape of the group is influenced by the shooter's exterior position.

- Area measured in mm^2.
  - Statistical representation of the shot group.
  - Modeled after a bivariant normal distribution.

- Roundness is a ratio.
 - 1.0 is perfectly round.

Major Axis.

Minor Axis.

Area (shaded region)
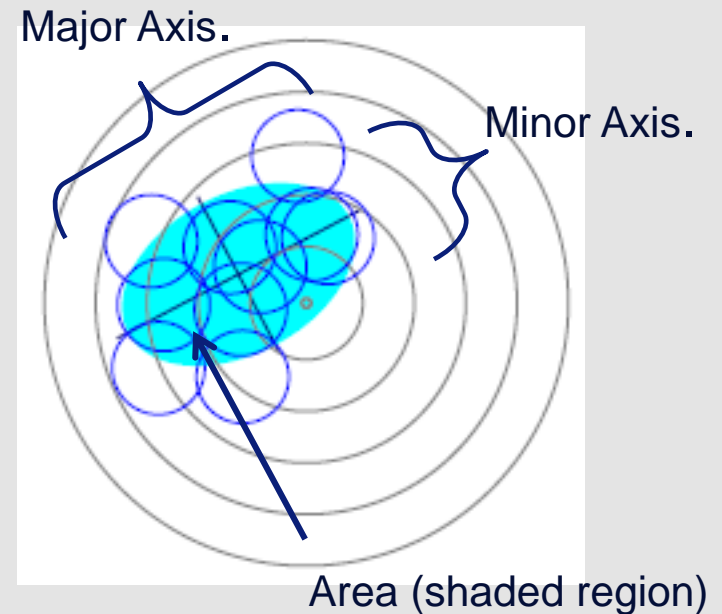
$$\text{Roundness} = \frac{\text{Major axis}}{\text{Minor axis}}$$

Center of Group

- Distance from center of aiming bull to center of group. Measure in mm.
- For new shooters, learning to center their group is a major challenge.
- Experiment: Tell a new shooter his or her only goal is to center their group. Will force them to:
    - Call their shots; pay more attention to sight picture.
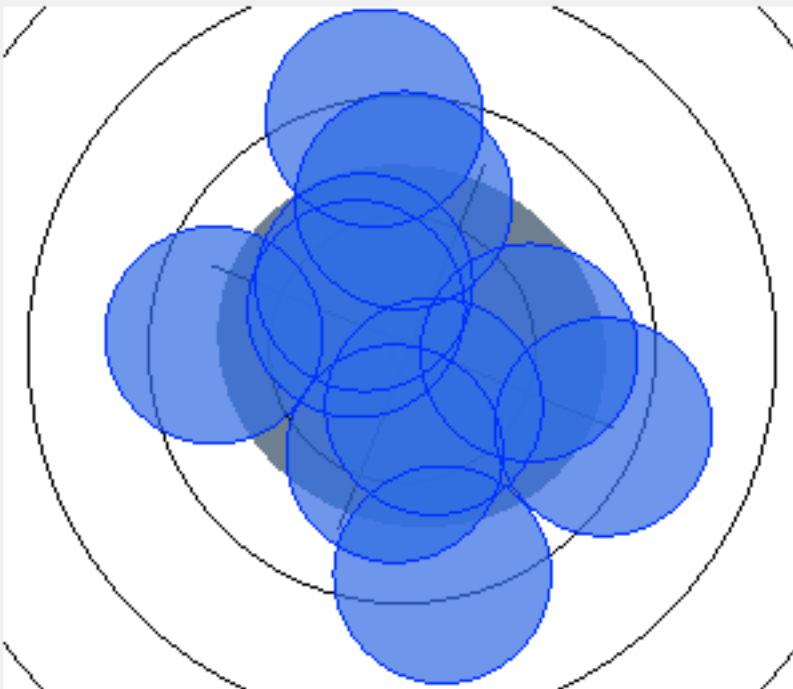   - Correlate shot call to shot placement to make sight adjustments.
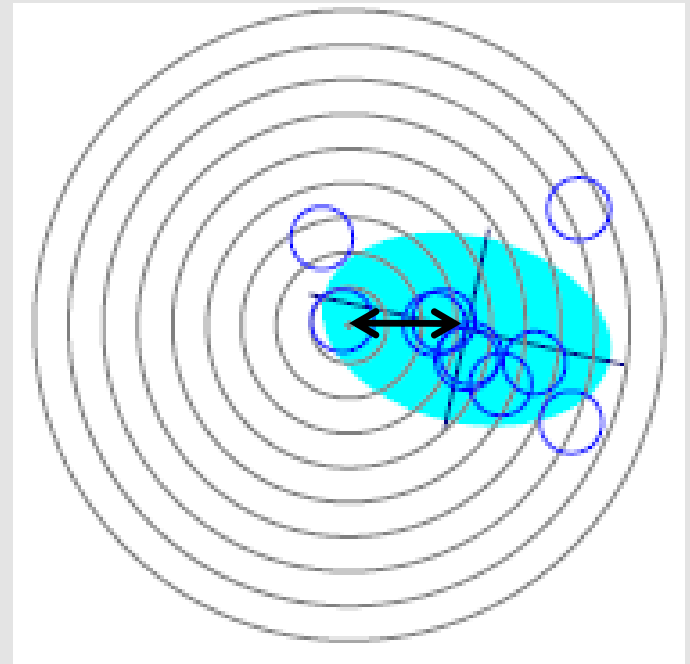
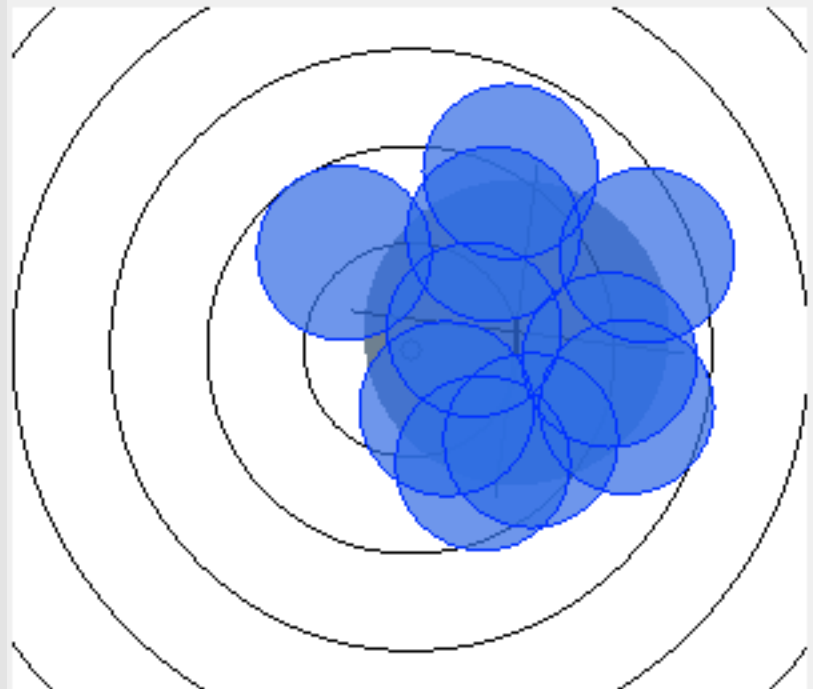# Importance of Center of Group
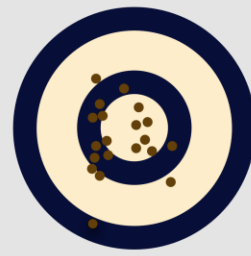
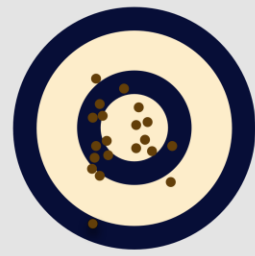Woodman, Jennifer R (97578)

PR 2: 94 - 3

Group Size	47.3 mm^2
Group Center	(0.2, 0.1), r=0.21 mm
Roundness	1.1

Yonce, Adam A (132752)
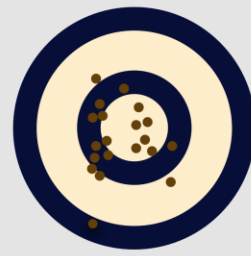
PR 1: 88 - 2

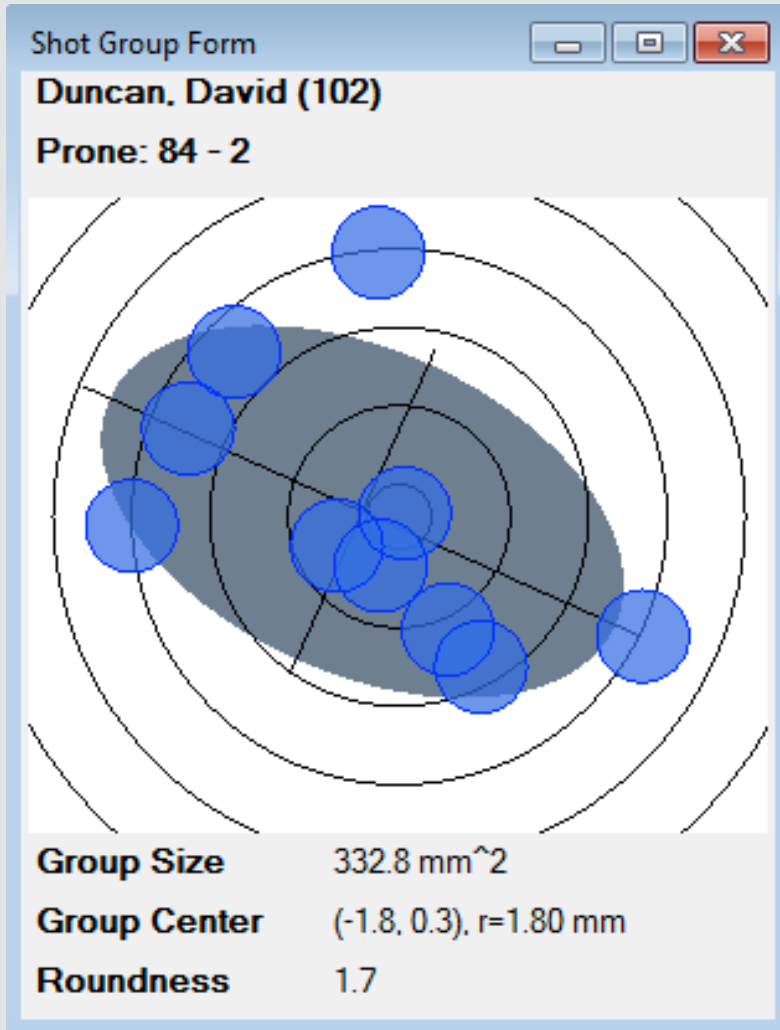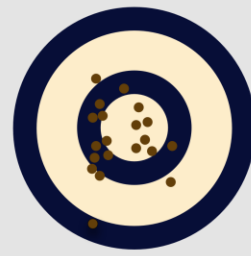| Group Size	48.5 mm^2
Group Center	(2.7, 0.5), r=2.75 mm
Roundness	1.0

Basics of Coaching

- Success comes from hard work.

- Be constructive and positive.

- Shoot as much in standing as you do in all other positions combined.

- Talk to your athletes. Help them become self aware of what they are doing.
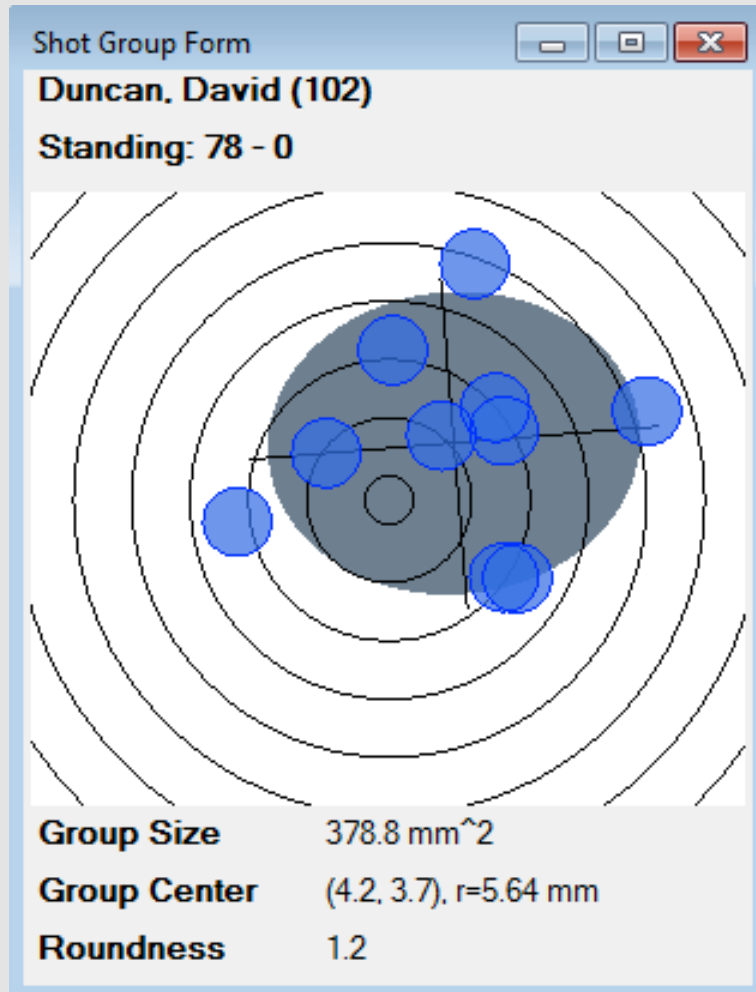
Example 1

Shot Group Form

Duncan, David (102)

Prone: 84 - 2

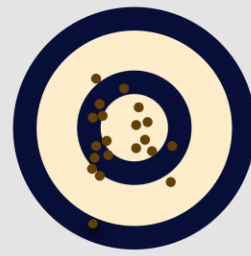| Group Size	332.8 mm^2
Group Center	(-1.8, 0.3), r=1.80 mm
Roundness	1.7

- Prone, sitting, or kneeling
- Characteristics:
  - Large group.
  - Elongated along X-Axis
- Causes:
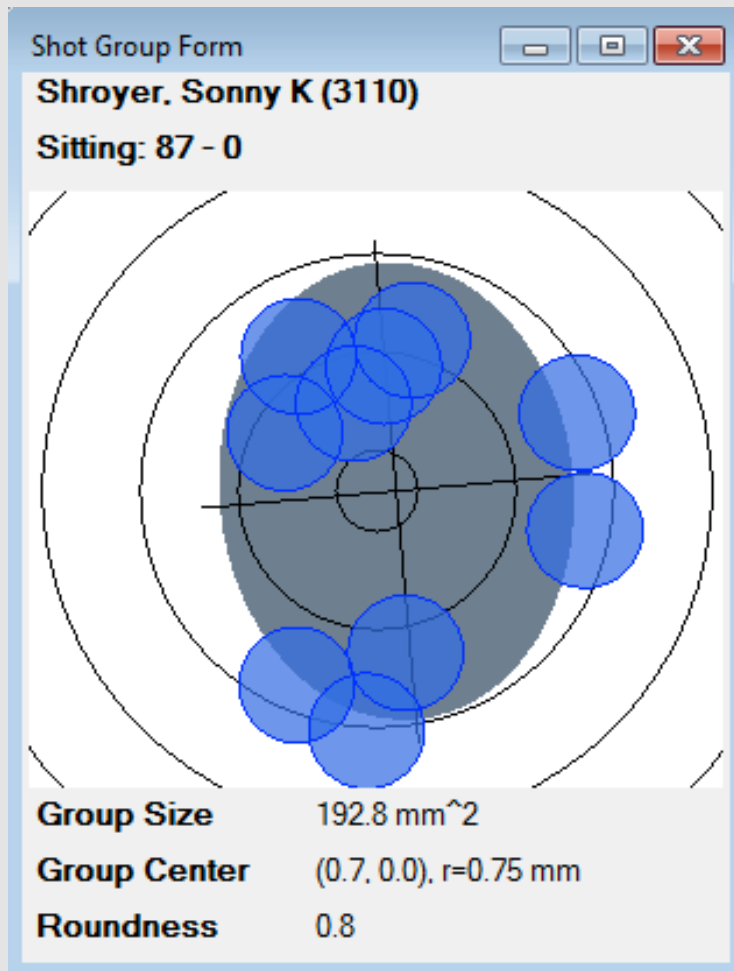 - Outer position.
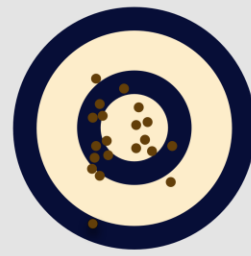 - Sling.
  - Natural point of aim

Example 2

Shot Group Form
Duncan, David (102)
Standing: 78 - 0

Group Size	378.8 mm^2
Group Center	(4.2, 3.7), r=5.64 mm
Roundness	1.2

- Characteristics:
  - Off-center.
- Causes:
  - Poorly called shots.
  - Sight adjustments needed.

Example 3

Shot Group Form

Shroyer, Sonny K (3110)

Sitting: 87 - 0

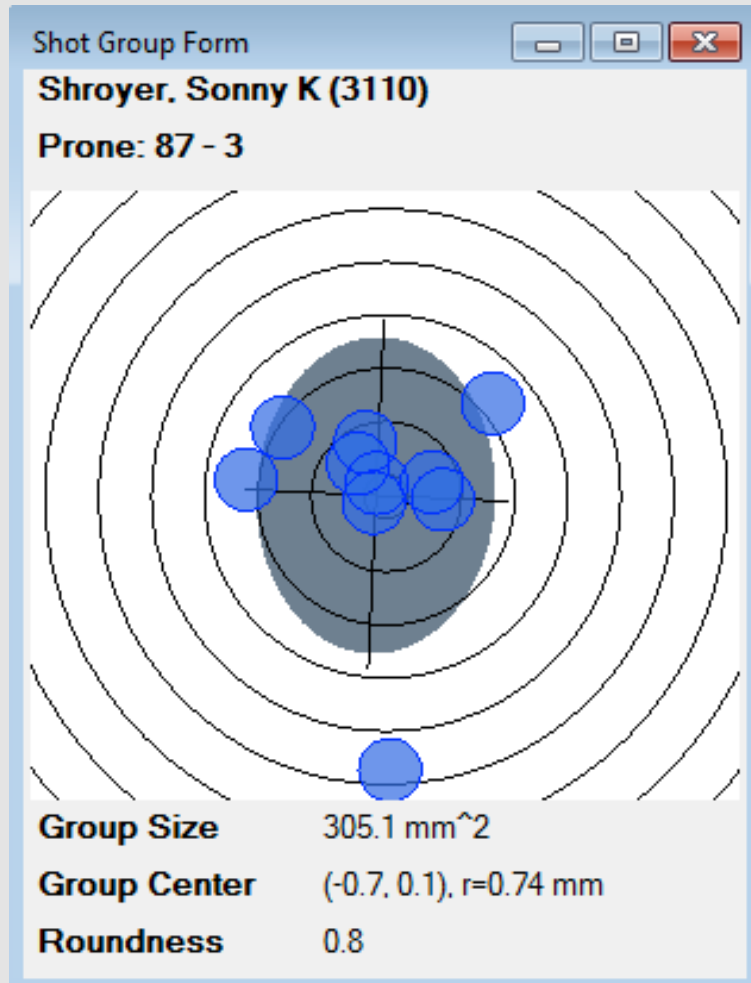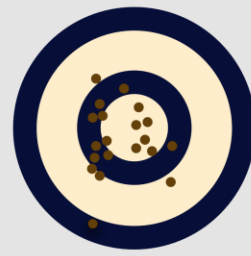| Group Size | 192.8 mm^2 |
| Group Center | (0.7, 0.0), r=0.75 mm |
| Roundness | 0.8 |

- Characteristics:
  - Core group is centered.
  - No flyers, but no 10s either.
- Causes:
  - Inner position.
  - Gun.

Example 4

Shot Group Form
Shroyer, Sonny K (3110)
Prone: 87 - 3

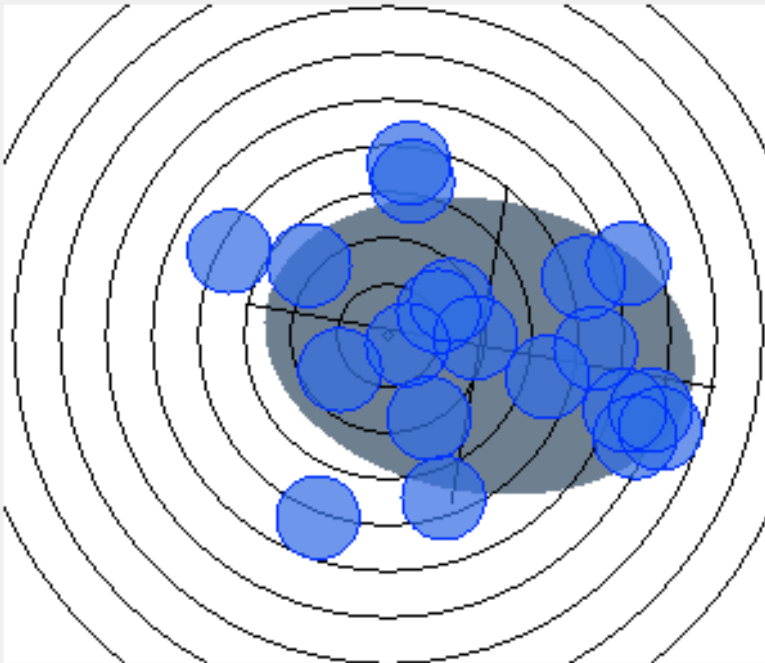| Group Size | 305.1 mm^2 |
| Group Center | (-0.7, 0.1), r=0.74 mm |
| Roundness | 0.8 |

- **Characteristics:**
  - Core group is centered.
  - Extreme flyer.
- **Causes:**
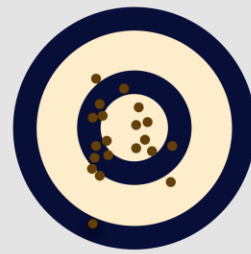 - Concentration.
  - BB Gun.
  - Trigger pull.

Example 5

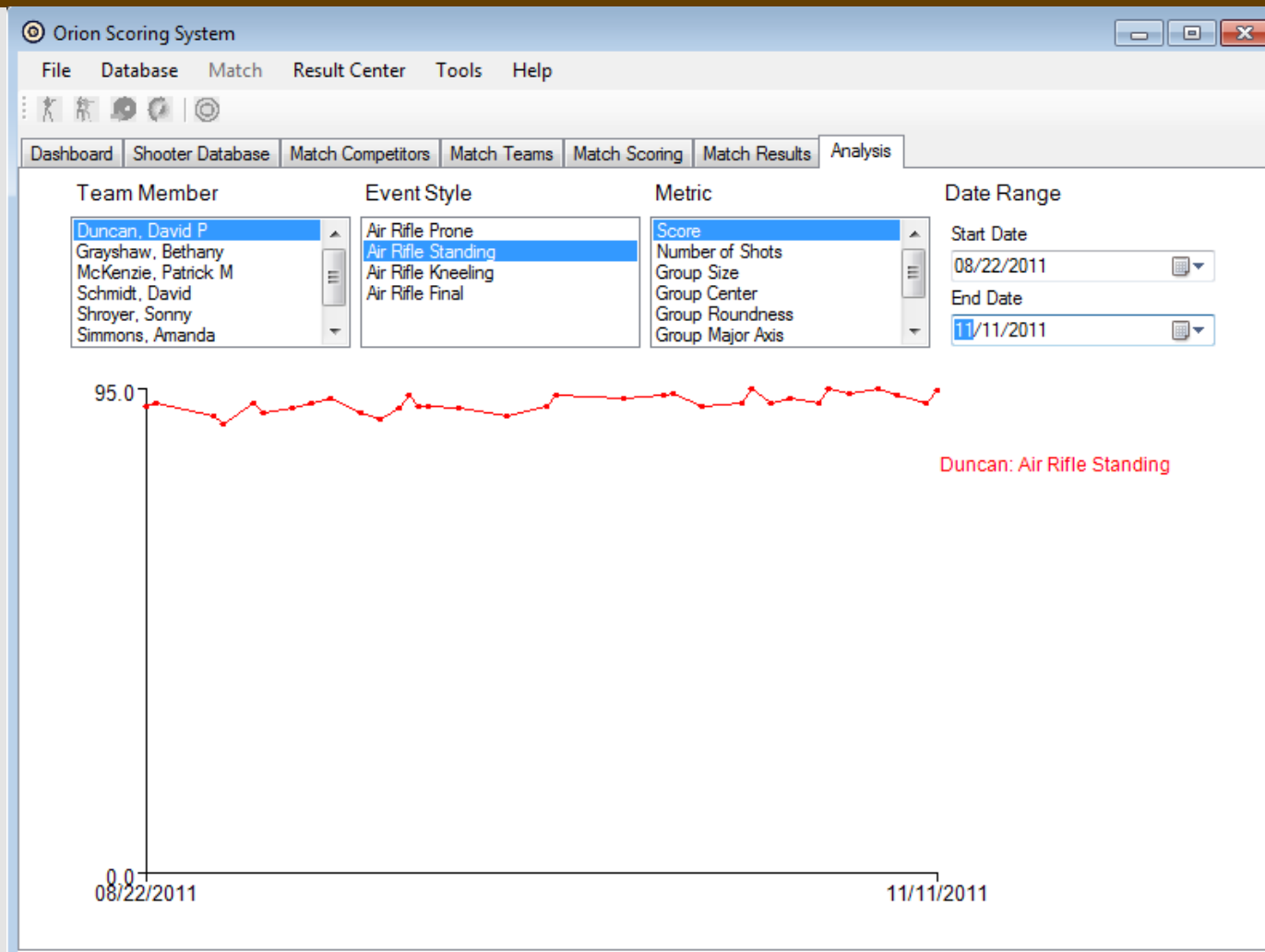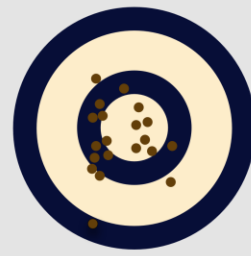McKenzie, Patrick A (117007)

Standing: 140 - 1

Group Size	291.7 mm^2
Group Center	(4.9, -0.5), r=4.98 mm
Roundness	1.5

- Characteristics:
  - Off center.
  - Large group.
  - Elongated along X axis.
- Causes:
  - Outer position.
  - Inner position.
  - Sight adjustments.

Analysis Engine

QUESTIONS

facebook.com/orionscoring
facebook.com/nationalairrifleleague
facebook.com/nationalbbgunleague

Channel: Orion Scoring System

Office Hours and Contact Information
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