End-of-Cycle Report Explained

A page-by-page guide to reading your End of Cycle report

What this report is. Once a year each laboratory receives one End of Cycle report that summarises how it performed across all rounds of the cycle. It is calculated from the results you submitted and the statistics already published to you in your monthly reports, so no new numbers appear that you have not already seen round by round.

Where to find it. The report is released after the last round of the cycle has been calculated. It is emailed to you in the same way as your monthly reports and appears in the portal beside them, labelled **End of Cycle** with the year. Every laboratory with at least one result in the cycle receives one.

How this guide is organised. The next pages show the real report, with numbered marks that match the notes beside each page. The report you receive has one cover page, two summary pages, and then one page for each analyte. In the examples a fictitious laboratory (Lab 10) is used; the figures are illustrative.

The report at a glance

Page 1	**Cover**	Your laboratory details, your cycle at a glance, the contents, issue details and contact links.
Page 2	**Cycle average absolute SDI**	One line per analyte: your average |SDI|, the all-labs average, the number of warning and action-needed results, and your rank.
Page 3	**Cycle average absolute %Dev and TEa**	One line per analyte: your average |%Dev|, the all-labs average, and the allowable limit (TEa) it is compared with.
Page 4 to the end	**One page per analyte**	Every round of the cycle for that analyte: group, mean, your result, SDI and %Dev, with two charts.

The three numbers that matter

|SDI| 2.0 or less

Acceptable

|SDI| above 2.0 and below 3.0

Warning, take a look

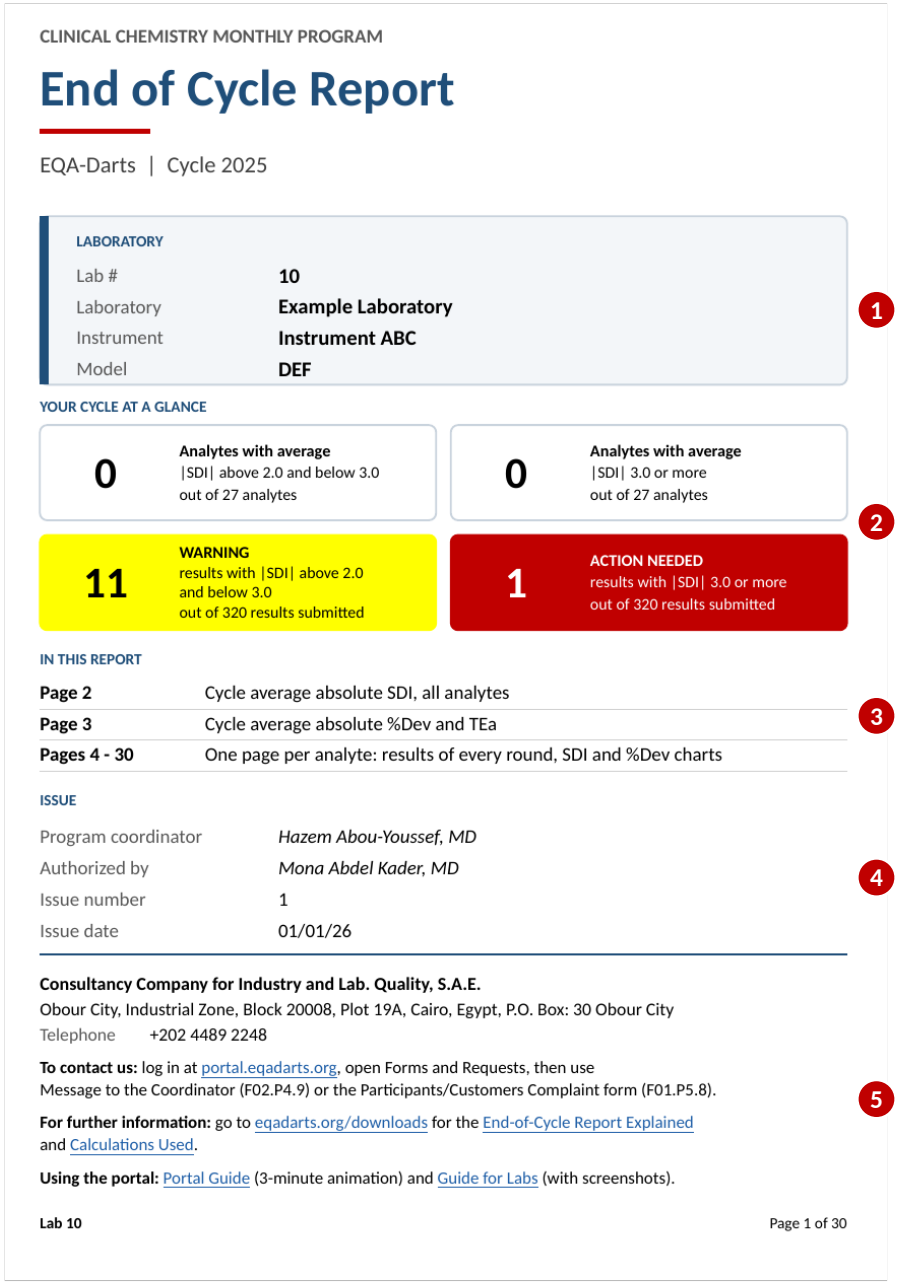
|SDI| 3.0 or more

Action needed, investigate

Need more detail? Calculations Used explains every formula; Guide for Labs (with screenshots) and the 3-minute Portal Guide explain the portal. To reach us: eqadarts.org/contact.

Page 1: the cover

Your laboratory, your cycle at a glance and where to find help



CLINICAL CHEMISTRY MONTHLY PROGRAM

End of Cycle Report

EQA-Darts | Cycle 2025

LABORATORY

Lab #	**10**
Laboratory	**Example Laboratory**
Instrument	**Instrument ABC**
Model	**DEF**

YOUR CYCLE AT A GLANCE

0 Analytes with average |SDI| above 2.0 and below 3.0 out of 27 analytes

0 Analytes with average |SDI| 3.0 or more out of 27 analytes

11 WARNING results with |SDI| above 2.0 and below 3.0 out of 320 results submitted

1 ACTION NEEDED results with |SDI| 3.0 or more out of 320 results submitted

IN THIS REPORT

Page 2	Cycle average absolute SDI, all analytes
Page 3	Cycle average absolute %Dev and TEa
Pages 4 - 30	One page per analyte: results of every round, SDI and %Dev charts

ISSUE

Program coordinator	*Hazem Abou-Youssef, MD*
Authorized by	*Mona Abdel Kader, MD*
Issue number	1
Issue date	01/01/26

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To contact us: log in at portal.eqadarts.org, open Forms and Requests, then use Message to the Coordinator (F02.P4.9) or the Participants/Customers Complaint form (F01.P5.8).

For further information: go to eqadarts.org/downloads for the End-of-Cycle Report Explained and Calculations Used.

Using the portal: Portal Guide (3-minute animation) and Guide for Labs (with screenshots).

Lab 10 Page 1 of 30

1. **Laboratory block.** Your laboratory number, laboratory name, instrument and model and, if you entered one in the portal, your **instrument name**.
2. **Your cycle at a glance.** The two white boxes count **analytes** whose cycle average |SDI| was above 2.0 and below 3.0, and 3.0 or more. The yellow (WARNING) and red (ACTION NEEDED) boxes count individual **results** with |SDI| above 2.0 and below 3.0, and 3.0 or more, out of all the results you submitted.
3. **In this report.** A map of the pages that follow. The analyte pages are in alphabetical order, one page each, and every entry is clickable.
4. **Issue details.** The program coordinator, the person who authorised the report, the issue number and the issue date.
5. **Help and links.**

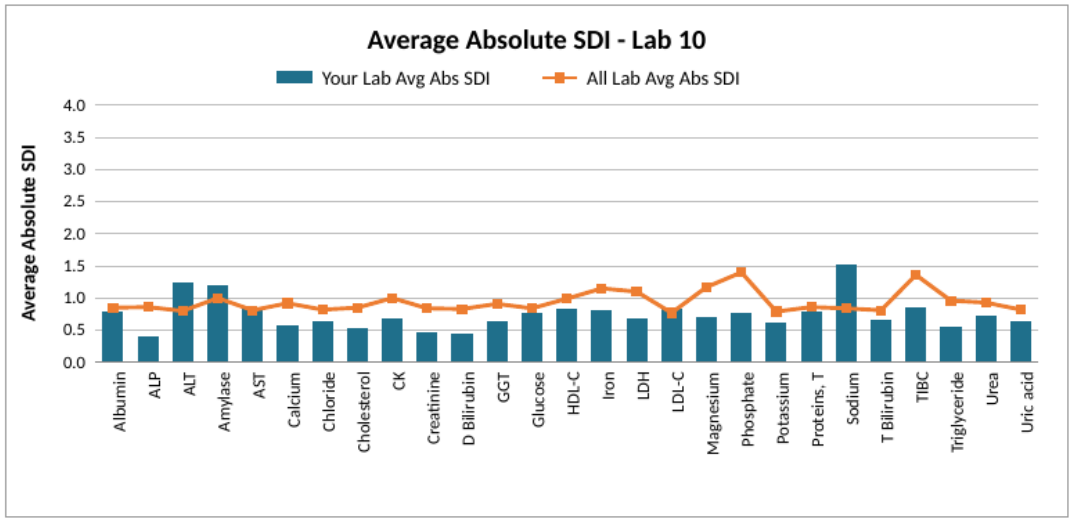
Page 2: cycle average absolute SDI

One line per analyte (the first rows are shown). Acceptable if the average is 2.0 or less

Cycle Average Absolute SDI. Acceptable if 2.0 or less

Analyte	Average |SDI|		Count of results submitted			Ranking	
	Your Lab	All Labs	All submitted	with |SDI| above 2.0 and below 3.0	with |SDI| 3.0 or more	Your rank	Labs ranked
	1	2	3	4	5	6	7
Albumin	0.80	0.85	12	1	0	41	72
ALP	0.41	0.86	10	0	0	5	59
ALT	1.24	0.80	12	4	0	72	83
Amylase	1.20	1.00	12	1	0	28	40
AST	0.86	0.81	12	1	0	53	83
Calcium	0.57	0.92	12	0	0	19	61
Chloride	0.63	0.82	12	1	0	14	41
Cholesterol	0.53	0.85	12	0	0	16	64
CK	0.69	1.00	12	0	0	23	57

|SDI| = Absolute SDI value, without – or + sign.
Colours: *no colour = ACCEPTABLE, |SDI| 2.0 or less; yellow = WARNING, above 2.0 and below 3.0; red = ACTION NEEDED, 3.0 or more.*
Your rank / Labs ranked: *your position among all participants (1 = best rank, with lowest average |SDI|) compared to how many labs were ranked.*
Individual SDI beyond ±10 (if any) were capped at ±10.0 before the cycle average was calculated.



1. **Your Lab, average |SDI|.** The average of the absolute SDI values (the sign is ignored) of every result you submitted for the analyte during the cycle. 2.0 or less is acceptable; the closer to zero the better.
2. **All Labs.** The same average calculated over all results of all participating labs. It shows what typical performance looked like.
3. **All submitted.** How many results you submitted for the analyte in the cycle (at most one per round, so 12 for a full year). Only results that received an SDI enter the averages.
4. **Yellow column (WARNING).** How many of those results had an |SDI| above 2.0 and below 3.0.
5. **Red column (ACTION NEEDED).** How many had an |SDI| of 3.0 or more. Any figure here deserves a look at the analyte page.
6. **Your rank.** Your position among all labs for that analyte. **1 is the best**, meaning the lowest average |SDI|.
7. **Labs ranked.** How many labs were ranked for the analyte.

The chart shows your average |SDI| (columns), against average |SDI| of all labs (line).

Page 3: cycle average absolute %Dev and TEa

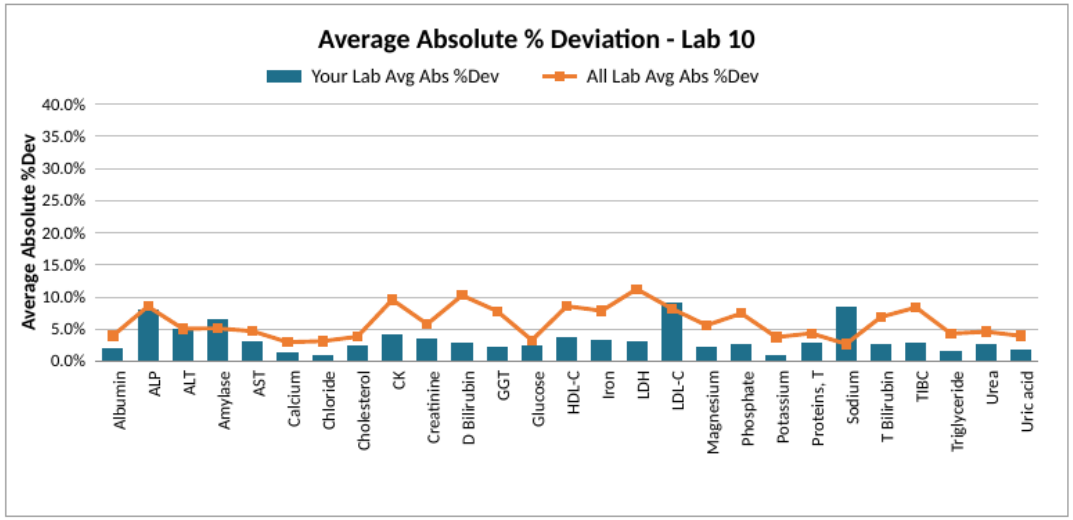
How far your results sit from the group mean, against the allowable limit

Cycle Average Absolute % Deviation and Total Allowable Error (TEa)

Analyte	Average Abs % Dev		Acceptability
	Your Lab (1)	All Labs (2)	TEa % (allowable limit) (3)
Albumin	2.11%	4.00%	3.31%
ALP	8.12%	8.56%	12.04%
ALT	5.02%	5.08%	18.47%
Amylase	6.48%	5.14%	13.07%
AST	3.12%	4.70%	12.22%
Calcium	1.45%	2.99%	2.20%
Chloride	1.01%	3.15%	1.24%
Cholesterol	2.41%	3.84%	8.58%
CK	4.26%	9.59%	20.58%
Sodium	8.57%	2.71%	0.73%

TEa = Total Allowable Error taken from the default list "BV desirable (EFLM 2025)" (your lab has not selected another list).
Each lab may select a different TEa list in the portal.
Individual %Dev beyond ±100% (if any) were capped at ±100% before the cycle average was calculated.

(4)



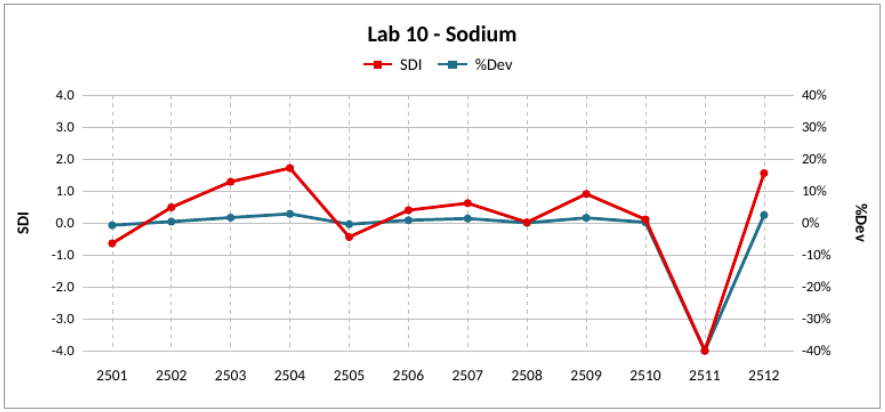
(5)

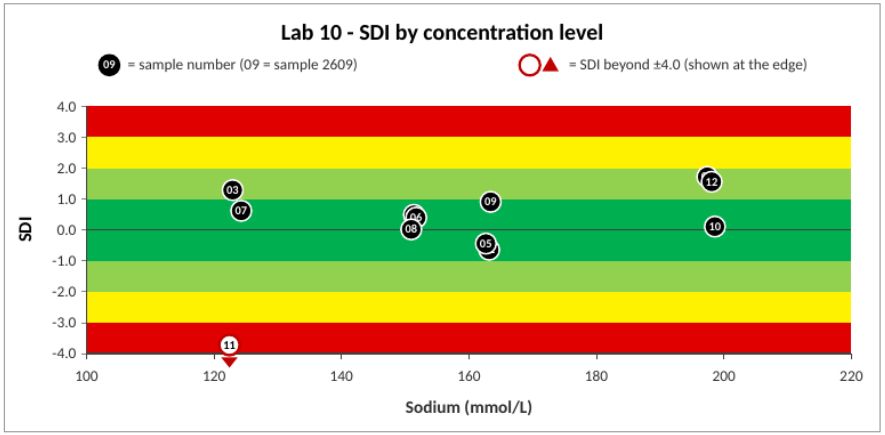
1. **Your Lab, average |%Dev|.** The average of the absolute percentage deviations from the group mean over the results you submitted. %Dev = (your result minus the group mean) / group mean × 100.
2. **All Labs.** The same average over all results of all labs.
3. **TEa % (allowable limit).** The Total Error Allowable for the analyte. Read your average |%Dev| against it. An average well below the TEa is comfortably within the allowable error; an average above it needs attention. Example from this page: sodium averages 8.57%, far above its TEa of 0.73%, because one round was far off (see the analyte page).
4. **Which TEa list.** The line under the table names the list used. By default it is *BV desirable (EFLM 2025)*, based on biological variation. You can choose another list in the portal. If you changed list during the cycle, the list in force at the last round is used. If your chosen list has no TEa for an analyte, a dash is shown for it. Individual %Dev beyond ±100% is capped at ±100% before averaging.
5. **Chart.** Your average |%Dev| (columns) against the all-labs average (line) for every analyte.

Page 4 to the end: one page per analyte

Every round of the cycle for one analyte (here, sodium)

Sample	Method	Instrument	Comparator	N	Mean	Result	SDI	%Dev
2501	ISE Na indirect	Instrument ABC	Peer	8	163.16	162	-0.64	-0.71%
2502	ISE Na indirect	Instrument ABC	Peer	9	151.35	152	0.49	0.43%
2503	ISE Na indirect	Instrument ABC	Peer	9	122.92	125	1.29	1.69%
2504	ISE Na indirect	Instrument ABC	Peer	9	197.38	203	1.72	2.85%
2505	ISE Na indirect	Instrument ABC	Peer	9	162.65	162	-0.44	-0.40%
2506	ISE Na indirect	Instrument ABC	Peer	9	151.71	153	0.40	0.85%
2507	ISE Na indirect	Instrument ABC	Peer	9	124.26	126	0.62	1.40%
2508	ISE Na indirect	Instrument ABC	Peer	10	150.94	151	0.02	0.04%
2509	ISE Na indirect	Instrument ABC	Peer	11	163.39	166	0.91	1.60%
2510	ISE Na indirect	Instrument ABC	Peer	12	198.58	199	0.11	0.21%
2511	ISE Na indirect	Instrument ABC	Peer	11	122.41	12	<-10.00	-90.20%
2512	ISE Na indirect	Instrument ABC	Peer	12	198.08	203	1.56	2.48%





1 The top of each page gives the year, your lab number, the analyte and how many results you submitted for it. Then:

1 **The table, one row per round. Method** and **Instrument** are what you entered. **Comparator** is the group your result was compared with, Peer or Method or All. **N** is the number of labs in that group and **Mean** its mean. **Result** is your result. **SDI** = (result minus mean) / group SD, and **%Dev** = (result minus mean) / mean × 100.

2 **Colours.** A yellow SDI (WARNING) is above 2.0 and below 3.0. A red SDI (ACTION NEEDED) is 3.0 or more. A value beyond ±10 is shown as **<-10.00** or **>10.00**. Here round 2511 shows a result of 12 where about 122 was expected, an entry error that gives a red SDI and raises the sodium average on pages 2 and 3.

3 **SDI and %Dev over the rounds.** SDI is read on the left axis (red line) and %Dev (blue line) on the right. A line that stays near zero is good. A shift or a steady drift to one side points to a bias; a wide zig-zag points to imprecision. Values beyond ±4 are drawn at the edge of the chart.

4 **SDI by concentration level.** Each numbered dot is one round (the number is the round of the year), placed at the concentration of the sample. The bands show |SDI| up to 1.0 (green), 1.0 to 2.0 (light green), above 2.0 and below 3.0 (yellow) and 3.0 or more (red). Use it to see whether errors occur at low, mid or high concentrations. A red triangle at the edge marks an SDI beyond ±4.

How the numbers are worked out

Short rules; the full formulas are in Calculations Used

SDI (standard deviation index)

SDI = (your result − group mean) / group SD. The group is the one named in the Comparator column (Peer or Method or All). The mean and SD are robust statistics, so a few extreme results do not distort them.

Cycle averages

The cycle average |SDI| is the mean of the absolute SDI of your results for the analyte. Individual SDI beyond ±10 is capped at ±10.0 and individual %Dev beyond ±100% at ±100% before averaging. Only results that received an SDI are used.

TEa

Total Error Allowable is the limit your average |%Dev| is read against. The default list is *BV desirable (EFLM 2025)*. You can choose another list in the portal; the report names the list it used.

Judging an SDI

|SDI| 2.0 or less is Acceptable. Above 2.0 and below 3.0 is a Warning (yellow, take a look). 3.0 or more is Action needed (red, investigate). The colours follow the SDI before rounding, so a printed 2.00 or 3.00 can fall on either side of the boundary. The sign shows direction: plus means your result was above the group mean, minus below.

Rank

Labs are ranked on their average |SDI| for the analyte, lowest first. 1 is best, lower is better. Your rank is shown with the number of labs ranked.

Need help or want to ask a question? Log in at portal.eqadarts.org, open *Forms and Requests*, and use *Message to the Coordinator* (F02.P4.9) or the *Participants/Customers Complaint* form (F01.P5.8). Without a login, write to us at eqadarts.org/contact.

Related documents at eqadarts.org/downloads: Monthly Report Explained, Calculations Used, Guide for Labs and the Portal Guide.