EasyOne Connect Software Version History

This document lists the most recent EasyOne Connect Software releases. The changes made are cumulative, which means that changes introduced in one version are also included in later versions.

Version Date	Description

(EOP V05) **V03.09.06.02** February 2025	• Bug fixes:
	   o EOC start application – Harpy Licensing Resources
	   o Change tt-Noise Limit during Baseline Setting and provide Feedback in Software.

(EOP V05) **V03.09.05.19** January 2024	• Features:
	   o FEV1, FVC Acceptability can be optionally shown on reports (bold and strikethrough).
	   o New Global GLI predicted set (Bowerman (Global GLI), 2023).
	   o New pediatric predicted set (Koillinen (Finland), 1998).
	   o New FEV1Q parameter according to ERS/ATS technical standard on interpretive strategies for routine lung function tests (2022).
	• Improvements:
	   o Updated bronchodilator response %Change calculation for FEV1 and FVC according to ERS/ATS technical standard on interpretive strategies for routine lung function tests (2022).
	   o For EMR orders, a close order button is now available directly from the test screen.
	   o Update of Multi-Breath Washout (MBW), which affects calculation of FRC and LCI. See details in the Application Note: EasyOne Connect V3.9.5: Changes in MBW Evaluation
	• Bug fixes:
	   o Bio-Cal History cannot be displayed when a test was performed with best trial using Spirometry Standard 2005 has been fixed
	   o FIVC best value is inconsistent if there are any null values for FIVC in the test has been fixed
	   o Total-breath' DLCO tests can now be performed on EOP
	   o Program Data not accessible after updating EOP Win10 through USB stick has been fixed.

(EOP V05) **V03.09.04.06** September 2022	• Features:
	   o New GLI predicted set for lung volumes (Stanojevic, Hall (GLI), 2017-21) is available.
	• Improvements:
	   o Cyber security: SQLite database encryption has been upgraded to AES-256.
	   o EMR connection: GDT file includes FEV1 % Predicted.
	   o XML export for databases with more than 10,000 trials has been improved.
	   o Performance improvement, related with huge size data bases.
	• Bug fixes:
	   o Report issue when testing with inline filter has been fixed.
	   o Inconstancy of z-score parameter on graph with predefined order has been fixed.
	   o Incorrect displaying of test session grades has been fixed.

Version Date	Description

(EOP V05) **V03.09.02.04**
 	
November 2021
	• Bug fixes and improvements:
	
	    o Grading for DLCO2017 A+ is obsolete in XML-Export
	    o Add %Pred DLCO/VA and %Pred DLadj/VA
	    o Fixed an issue where the message number was missing on DLCO-Adjustment_And_Collection
	    o EMR/XML perform test command with AgeOnly-studies and FirstContactDate
	    o UncPath for SQLite patient database is saved to configuration
	    o Fixed issue with on-screen keyboard
	
	• Features:
	
	    o Add message number parameter to spirometry tests (ATS/ERS spirometry standard 2005), MBW and DLCO
	
	• Improvements:
	
	    o Show %Pred for Ratio Parameter
	    o Show Parameter PEF [L/min] in Best selection
	    o Update TeamViewer to version 15

(EOP V05) **V03.09.00.10**
 	
June 2021
	• This version and above are only applicable to V05 devices.
	
	• Reworked incentive animations to remove the dependency on Adobe Flash Player.
	
	• Integrated the flow sensor firmware update v2.0.1.0.
	
	• Bug fixes and improvements:
	
	    o Calibration check: Acceptability of Cal-Check trials can no longer be overridden.
	    o DLCO: Hemoglobin (Hb) values are shown on DLCO and the summary report.
	    o Provocation test: if FVL instead of FVC is the chosen test type, the dialogue for entering environmental conditions is shown prior to the tests.
	    o SQL Server database selection: a warning message is displayed if the user cannot access the selected database.
	    o EMR order handling: improved order loading mechanism when a significant number of open orders are present.

Version Date	Description

(EOP) V03.08.00.11
 	
January 2021 (Internal release only)
	• Spirometry Standard 2019 update:
	
	    o User can switch between 2005 and 2019 spirometry standard for FVC/FVL test.
	    o Update acceptability and usability rating of FEV1 and FVC parameters under 2019 standard setting.
	    o Update quality grading for FVC/FVL test under 2019 standard setting.
	    o Update quality grading for SVC test according to 2019 standard.
	    o Update test report with actual values shown first in result columns.
	    o Cal-check error tolerance is reduced from 3.5% to 3%.
	
	• Enhanced EMR features*:
	
	    o Add support for merging patients based on HL7 messages.
	    o Allow patients to have alternative display IDs.
	    o Allow the current hospital to be defined in the setting. Allow location filtering based on the hospital, to which the order is assigned.
	
	* Please contact connectivity@ndd.ch for detailed information and instructions.
	
	• Bug fixes and improvements:
	
	    o Update DLCO predicted values which have been corrected by GLI.
	    o Provide calculated predicted values for ERV and IC.
	    o Include Windows 8 patches in the EasyOne Pro/LAB updater.

(EOP) V03.07.02.02
 	
October 2020
	• Additional filter available: Proximal (EOP) GVS SpiroGuard (2800/21)
	
	• Improved UI localization for all available languages
	
	• Improved user management:
	
	    o Only privileged users can deactivate user handling
	
	    o User group can be deleted once all member users have been deleted
	
	Important information: From this release onward, EasyOne Pro/LAB with SN ‹ 500200 (device version V02) will no longer be supported by future software updates. Owners of these devices who request a software update please contact support@ndd.ch.

(EOP) V03.07.01.09
 	
June 2020
	• Special Covid-19 release to support the optional use of inline filters for additional protection of the staff and the test environment:
	
	    o Added a configuration to enable the use of filters
	
	    o Ensures correct measurements of Spirometry, DLCO and MBW with ndd approved filters
	
	Important information: To ensure correct measurements, only use filters that are specified by ndd and available in the software configuration. The correct filter type must be selected in the software configuration. More information can be found on www.ndd.ch

Version Date	Description

(EOP) V3.07.00.02
 	
March 2020
	• Harmonization with lung function standards and new predicted values:
	     o Update quality grades to meet the DLCO guidelines 2017
	     o Introduction of Z-score graph according to the ATS report guideline 2017
	     o New predicted values "Gochicoa (Mexico)"
	     o New predicted values "Kainu (Finland)"
	• Improved usability and functionality for lung function testing:
	     o Improved recognition of exhalation for SVC tests
	     o Improved N2 signal computation for MBW tests
	     o Option to set the MBW tests to a constant oxygen flow
	• Centralized User Management and Improved Cybersecurity:
	     o Ability to integrate with your Active Directory for secure & central user management
	• General improvements and bug fixes:
	     o Fixed an issue where autocompletion incorrectly completes age entry
	     o Fixed an issue where user.config file could get corrupt in some special cases
	     o Fixed an issue where remote support was not possible anymore for older generation EasyOne Pro devices

(EOP) V3.06.00.23
 	
Dec 2019
 	
Important Bug Fix Release
	• Important Bug Fix for DLCO tests:
	     o Fixed an issue where entry of the Hb value resets the trial acceptability to the automatic system acceptability, in case the trial was previously changed manually
	• Other bug fixes:
	     o Fixed several issues that could lead to exceptions that require a system restart
	
	It is highly recommended to update all devices to this software version due to the observed issue with DLCO tests that can lead to a change in trial acceptability.

Version Date	Description
(EOP) **V3.05.01.07** March 2019	• Improved MBW & DLCO Testing Functionality o Improved the automatic test end for DLCO tests o LCI at airway opening is now supported as parameter (LCIao) o The breathing rate is now displayed online during the MBW test for better usability and easier quality control • Improved Cybersecurity o Possibility to define your own database password o Option to enforce strong passwords for user logins o Option to enforce password expiration for user logins o New Windows operating systems patches for improved cybersecurity • Improved FVC and FVL Testing Functionality o New setting to enforce 6s expiration o New setting to show a warning prompt if end of test criteria is not fulfilled o Generally improved messaging (for details see "AppNote MessageNo V08R.pdf") • General Improvements on Usability o Tutorial movies can now be played directly on the device o The device database can now be easily deleted, and the factory settings easily restored using the factory reset option • General Improvements and bug fixes o Danish and Norwegian are now supported as software language o Fixed an issue where the PDF report was empty for Chinese language o Fixed an issue where the VC pre value is used in the FVC post test o Extended number of saved error codes from three to seven **Attention:** this might affect your XML interface (for details see "AppNote MessageNo V08R.pdf")
(EOP) **V3.04.00.23** April 2018	• Improved data handling and performance o Keep your historic data by automatically importing existing tests as pdf's and attaching them to the patient history in EasyOne Connect o Improved database performance to handle extremely large databases containing more than 100'000 patients (SQL Server) • General Improvements and Bugfixes o Fixed an issue where the user feedback was not correct on SVC tests with heavy tidal breathing o Better alignment of FV and VT curves on the standard report • New Windows operating systems patches for improved cybersecurity

Version Date	Description

(EOP)
V3.03.00.11
 	
Nov 2017
	• Improved Provocation Testing Functionality
	
	    o Define and modify provocation protocols
	
	    o Added exercise provocation as new standard protocol
	
	• Improved Reporting and Trending Capabilities
	
	    o Enter and trend external FeNO, MIP, MEP, SpO2 values add them to spirometry report and or transfer the values to the EMR system
	
	    o Automatically trend parameters of the last 5 tests on the standard PFT reports
	
	    o Possibility to visualize more parameters on the standard report
	
	    o Show Z-Score and %predicted simultaneously on all standard reports
	
	    o Generally improved report layouts by dynamically arranging graphs and tables
	
	• Added new predicted equations and Operator's Manual languages
	
	    o Added the reference equations "Stanojevic (GLI, 2017)" for DLCO and lung volumes
	
	    o Included additional translations of the EasyOne Pro/LAB Operator's Manual
	
	• General Improvements and Bugfixes
	
	    o Fixed an issue where changes in the configuration were only applied after a restart of the application
	
	    o Applied operating system security patches for better cybersecurity protection
	
	    o Extended configuration of "minimally required number of pre-washout breaths"
	
	    o Fixed an issue where for older device generations an update of the software caused DLCO tests to be unavailable

Version Date	Description

(EOP)
V3.02.00.06
 	
July 2017
	• Improved reporting capabilities:
	
	   ○ Comments can be added much faster
	
	   ○ Define standard text blocks and quickly add them to the report when needed
	
	   ○ The highlighting color used to show abnormal results can now be defined in the configuration (e.g. black, red, etc.)
	
	• Connectivity performance improvements:
	
	   ○ Increased the speed of an EasyWare database import
	
	   ○ Fixed an issue with the import of very large EasyWare databases
	
	   ○ Significantly increased the speed of loading the EMR order list
	
	   ○ Fixed an issue where EMR orders could not be closed, when certain special signs were used in the comment section
	
	• User interface improvements for Multiple Breath Washout:
	
	   ○ The MBW test incentive can now be switched between a larger target inspiratory volume and smaller target inspiratory volume
	
	   ○ For MBW tests two lines are added on the screen that indicate 4 and 6% CO_2, for better visibility of a physiological range
	
	   ○ For MBW the last breath used for the calculation of LCI is now indicated on the display
	
	   ○ For MBW tests, when zooming into the displayed curve, the visible breaths are indicated in the breath chart
	
	   ○ Fixed an issue, where in some cases the volume curve would move outside of the visible range

Version Date	Description

(EOP)
V3.01.00.01
 	
May 2017
	• Improvements in MBW:
	
	   o Better review capability by adding the ability to zoom into curve data for MBW tests
	
	   o Better review capability by automatic scaling of the volume axis for MBW tests
	
	   o Automatic adjustment of target inspiratory volume based on patient height
	
	   o Better detection of patient hyperventilation by adding the ability to show the CO_2 concentration of each breath
	
	   o Better export capabilities by adding the MBW curve data to the xml export
	
	   o Improved standardization by taking the N2 start concentration of MBW tests from the expiratory breath instead of the inspiratory breath
	
	• Improved Calibration Check functionality:
	
	   o Flow targets now also meet the OSHA disability standard
	
	   o Additional multi flow calibration check option requiring only one trial
	
	• Improved performance and bug fixes:
	
	   o Faster patient database search
	
	   o Better reporting capabilities by adding the possibility to show Z-score and % predicted at the same time on custom reports for DLCO and MBW tests
	
	   o Better handling of patients with birthday 29th of February
	
	   o Individual patients can now be exported from MS SQL server database
	
	   o Fixed an issue where in some cases the calibration check data could not be exported

Version Date	Description

(EOP)
V2.02.00.15
 	
August 2016
	• Z-score and improved reporting functionality:
	
	   o Z-score is now available on the display and on the report
	   o It is now possible to only show acceptable trials on the report
	   o Trial time can now be shown on the report
	
	• Improved user interface for MBW test:
	
	   o Added volume curve for the entire test
	   o Increased visibility of inhalation volume
	   o Rearranged the user interface during the test for better visibility
	
	• Support of new predicted values:
	
	   o New DLCO predicted values "Perez-Padilla / ALAT 2016" including altitude
	
	• Improved data handling:
	
	   o It is now possible to directly export and import individual patients with all tests
	
	• Improved cyber security:
	
	   o In order to better control access, permissions of different user groups can now be adjusted directly
	   o Additional logging of patient search activity
	   o Improved traceability in audit trail
	
	• Bug fixes:
	
	   o Fixed report error when all trials have been deleted
	   o Fixed error when searching patients in Allscripts
	   o Fixed unwanted duplication of patient records during import
	   o Fixed wrong error message during MBW test

Version Date	Description

(EOP)
V2.01.00.09
 	
March 2016
	• Improved usability of MBW measurement:
	
	    o Easier completion of MBW tests through better handling of irregular breathing patterns.
	    o Improved usability by showing the N2 washout curve live on the screen during tests.
	
	• Improved connectivity:
	
	    o Switching from EasyWare to EasyWare Pro (Easy on-PC) is now much easier. EasyWare databases can now be imported in Easy on-PC and EasyOne Pro / LAB.
	    o Summary interpretation of several tests is now available in the HL7 message
	    o "% Pre/Post" change is now available in the HL7 message
	    o Extended XML export (Technician, Reviewer, Modified)
	    o Bug fix in EMR review workflow
	    o Bug fix when SQL server is not connected during software start up
	
	• Improved performance:
	
	    o Faster loading time for biological quality control

(EOP)
V2.00.01.05
 	
Sept. 2015
	• Improved data performance and patient data encryption
	
	    o Support of MS SQL Server database
	    o Improved performance for large databases and heavy multi user-access
	    o Improved encryption and support of SSL connections (MS SQL Server)
	    o Faster merging of databases
	
	• Support of new predicted publications and improved usability
	
	    o New publication: JRS (Japan)
	    o New publication: Ip (Hong Kong)
	    o New publication: Chhabra (India)
	    o Fixed "out of memory" issue when updating predicted of tests
	
	• Additional language support
	
	    o Added Chinese language
	    o Added Swedish language
	
	• Improved XML export
	
	    o Added system interpretation
	    o Fixed "out of memory" problems for xml export of large databases

Version Date	Description

(EOP)
V1.9.0.19
Sept. 2014
	• Improved Design & Usability
	
	    o New clean and simple user interface
	    o Improved test acceptability & test messaging
	
	• More Functionality
	
	    o DLCO curves included in XML export
	    o Delete individual tests
	
	• Improved Connectivity
	
	    o Improved XML connectivity workflow (direct printing)
	    o Concurrent message handling improved for XML and HL7 connectivity
	    o Support EasyOne screen connector and cradle for Windows 8
	    o Fixed connectivity issue with EasyOne
	    o Fixed connectivity issue with Allscripts Professional / Touchworks