सत्यमेव जयते

newsletter

National Dope Testing Laboratory

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PROMOTING ANTI-DOPING SCIENCE & RESEARCH

The Laboratory that takes forward dope testing in human sports for India

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From the desk of the Scientific Director

The National Dope Testing Laboratory (NDTL) has been established by the Government of India with the objective to promote fair play and clean sports. The Laboratory, having international accreditation (WADA & ISO/IEC-17025), is dedicated to analytical testing and research in human dope testing. Over the years, a need has been felt to publish a Newsletter periodically with a view to exchanging ideas and enhancing analytical testing, developing new methods and protocols etc in the new and emerging areas of dope science. With the advent of new drugs and continuously evolving methodologies in testing, there is always a scope for improvement through research and development. We, at NDTL, remain prepared to share and acquire new knowledge and technology to meet these ever changing challenges.

I sincerely hope our maiden attempt in publishing this News Letter will achieve these avowed goals.

I place on record my sincere thanks to the dedication of the Scientists and Staff of NDTL in bringing out this Newsletter.

I also place my deep graditude to the Goverment of India, Honorable Minister Mr. Kiren Rijiju for providing all timely support, patiently bearing with NDTL and encouraging NDTL to move forward with significant moments since 2019 onwards.

Dr. P. L. SAHU
Scientific Director

newsletter

Office
National Dope Testing Laboratory (NDTL)
J.N. Stadium Complex,
East Gate No. 10,
Lodhi Road,
New Delhi-110003, India
Phone: +91-11-24365530
Fax: +91-11-24368850, 24365530
Email: ndtlindia@nic.in
www.ndtlindia.com





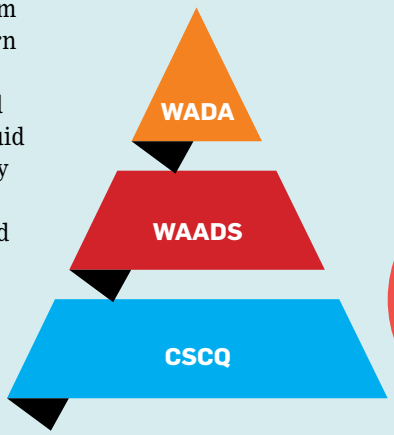
NDTL at a Glance

The National Dope Testing Laboratory (NDTL) is a premier analytical testing & research organization established as an autonomous body under the Ministry of Youth Affairs and Sports, Government of India. It is the only laboratory in the country responsible for dope testing in human sports. It is accredited by National Accreditation Board for Testing & Calibration Laboratories (NABL) as per ISO/IEC 17025:2017 and World Anti- Doping Agency (WADA) for testing of urine & blood samples from human sports. It is one of the modern & state-of-the-art laboratories in the country equipped with sophisticated analytical instrumentation like Liquid Chromatography Mass Spectrometry (LC-MS/MS), Gas Chromatography Mass Spectrometry (GC-MS/MS) and Isotope Ratio Mass Spectrometry (IRMS) etc. NDTL is participating in various External Quality Assurance Scheme (EQAS) schemes like WADA-EQAS, WAADS, and CSCQ.



Mr. Siddhartha Singh Longjam, Joint Secretory (Sports-Development) with Dr. P L Sahu, Scientific Director, NDTL

External Quality Assurance Scheme



Highlights

TRAINING

- National Webinar on "Anti-Doping Nutritional and Therapeutic Needs in Sports".
- Training on GC/C/IRMS and QMS

MoU & NDTL PROJECTS

- Scientific and Academic Collaborations (MoU with NIPER-Guwahati
- Ongoing research projects at NDTL

QUALITY ASSESSMENT

- Training on ISO/IEC 17025:2017
- Training on WADA ISL Ver. 11
- Re-assessment of ISO/IEC 17025:2017
- Training on GCP
- ICMR-NDTL Site Visit and Inspection
- Constitution Day
- Hindi Activities

Quality Policy

- Endeavours to deliver its services appropriate to the client's needs.
- Strives to continuously improve its services and maintain its quality performances.
- Aims at systemically promoting skills and knowledge of all its staff members by imparting appropriate training of the highest standards.



Jointly organised one-day national webinar

The National Anti-Doping Agency (NADA), National Dope Testing Laboratory (NDTL), and the National Sports University (NSU) had jointly organized a one-day national webinar on December 07, 2020 on *"Anti-Doping Nutritional and Therapeutic Needs in Sports"*. The event was inaugurated by the Hon'ble Minister of Youth Affairs & Sports, Kiren Rijiju. The programme was chaired by NADA Director General, Mr. Naveen Agarwal. The President of the World Anti-Doping Agency (WADA), Mr. Witold Banka was featured as the Guest of Honour along with Sports Secretary, Mr. Ravi Mittal and Vice-Chancellor of National





The event was inaugurated by the Hon'ble Minister of Youth Affairs & Sports, Mr. Kiren Rijiju. The programme was chaired by NADA Director General, Mr. Naveen Agarwal. The President of the World Anti-Doping Agency (WADA), Mr. Witold Banka graced the occasion as the Guest of Honour.

Sports University, Mr. R.C. Mishra. The President of the Athletics Federation of India (AFI), Mr. Adille Sumariwalla was the Special Guest.

Dr. P.L. Sahu, Scientific Director, NDTL, who was also the Vice-Chairman of the Webinar, delivered a talk on the topic entitled "*Sports Doping Control: Challenges and Initiatives*" and the same was appreciated by the Organizing Committee. The Scientific Director along with the Dr. Kapendra Sahu, Scientist, NDTL acted as Member Panellists for expert comments in the Questions & Answers Session.



Training

Training on Isotope Ratio Mass Spectrometry (IRMS) organized for NDTL Scientists and Members of Staff by Distinguished Doping Experts.

On September 2 & 16, 2020, a virtual training programme on Isotope Ratio Mass Spectrometry (IRMS) was conducted by NDTL for its Scientist/Staff in which Dr. Thomas Piper, Cologne Laboratory, Germany imparted training on implementation of Data Handling, Quality Control, and Reporting of the Results.

On December 15 & 17, 2020, a training was conducted by the Laboratory on IRMS through virtual mode in which Dr. Xavier de la Torre (Italy) was the Trainer. The Scientists, Research Associates, and Analysts of NDTL were given training and exposed to new advanced approaches and techniques of IRMS for implementation in dope control analysis.



Scientific and Academic Collaborations (MoU)

NDTL is also moving towards firming up agreements/collaborative research on dope testing at national and international levels including the All India Institute of Medical Sciences (AIIMS) and for the WADA-accredited laboratories

The Laboratory had signed a Memorandum of Understanding (MoU) with the National Institute of Pharmaceutical Education and Research (NIPER), Guwahati-India. The aim of this MoU is *to initiate synthesis and characterization of reference standards for specific prohibited substances and metabolites* through collaborative research. This initiative of NDTL had also been informed to WADA.

Further, NDTL is also moving towards firming up agreements/ collaborative research on dope testing at national and international levels including the All India Institute of Medical Sciences (AIIMS) and for the WADA-accredited laboratories.

> Governing Body meeting of NDTL was held under the Chairmanship of Hon'ble Shri Kiren Rijiju, Minister of State (I/C) Youth Affairs & Sports, Government of India

On September 25, 2020, NDTL conducted a meeting of the Ethics Committee for ongoing research activities under the Chairmanship of Prof. (Dr) Y.K. Gupta, former Head, Department of Pharmacology, AIIMS, New Delhi & Principal Advisor, THSTI-DBT, Government of India. The Ethics Committee discussed, reviewed and suggested its recommendations on the ongoing research projects submitted/ presented by NDTL Scientists and Researchers.

The Scientific Advisory Board (SAB) of NDTL was held



The Laboratory has activated a Memorandum of Understanding (MoU) with the National Institute of Pharmaceutical Education and Research (NIPER), Guwahati, India

on September 28, 2020 under the Chairmanship of Prof. R.K Goyal, Vice-Chancellor, Delhi Pharmaceutical Sciences & Research University (DPSRU), Delhi. It reviewed the measures required to be taken by the Laboratory in so far as WADA observations on corrective actions are concerned and recommended measures to be put in place for their effective implementations.

On November 3, 2020, the 13th Governing Body meeting of NDTL was held under the Chairmanship of Hon'ble Mr. Kiren Rijiju, Minister of State (I/C) Youth Affairs & Sports, Government of India. In this meeting, many important decisions were taken to further strengthen NDTL for compliance of WADA ISLs.





NDTL Laboratory is the precinets of the iconic Jawaharlal Nehru Stadium

Ongoing Research Projects at NDTL

Metabolite Profiling and Degradation Products



Dr. SACHIN DUBEY
(Scientist-C)

- Investigation on Meclofenoxate metabolism, profiling of its degradation products in urine and evidence based cut-off for unambiguous identification in human sports doping control.
- Correlation study of Mucaine gel (Oxethazaine) concerning drug abuse of Mephentermine and Phentermine.

Metabolism Study and Expanding Detection Window



Mr. ARPIT SONI
(Senior Analyst)

- Investigation of Triamterene metabolism: Expanding the detection window in sports dope testing.
- Metabolism study for detection and identification of 7-keto dehydroepiandrosterone abuse.

Urinary Excretion Pattern of Corticosteroids



Mr. AWANISH UPADHYAY
(Scientist-C)

Urinary excretion patterns of Ciclesonide after different routes of administration and effect on endogenous Corticosteroids profile.

Dried Blood Spot Technique for ESAs



Mr. ANAND RAJ
(Research Associate -1)

A feasibility study of DBS card for the detection of ESAs in human blood specimen: A comparison to standard detection method.



Gas Chromatography-Combustion-Isotope Ratio Mass Spectrometer (GC/C/IRMS)
253 Plus

Scientific Publication

A Paper entitled "*Method Development and Validation of Ephedrine and Pseudoephedrine in Horse Urine by Liquid Chromatography-Tandem Mass Spectrometry.*"

Ashok Kumar Maurya, Puran Lal Sahu, Sakshi Jethi, Himank Gosain, Kapendra Sahu*. Indian Journal of Pharmaceutical Education and Research, 2020; 54 (3s): s671-676 doi:10.5530/ijper.54.3s.167

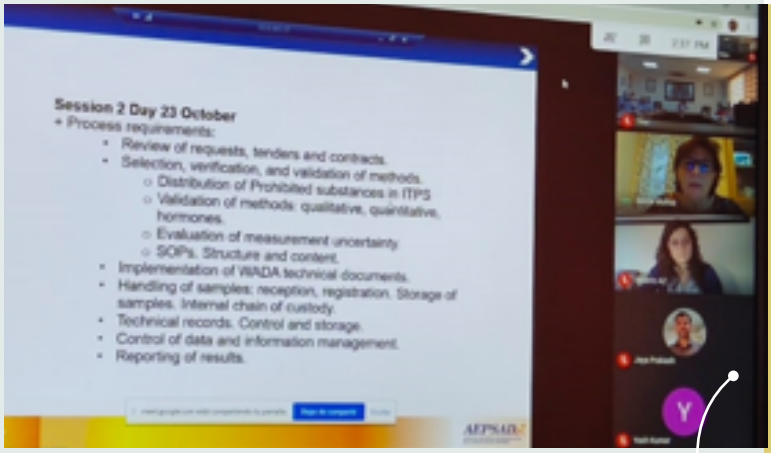


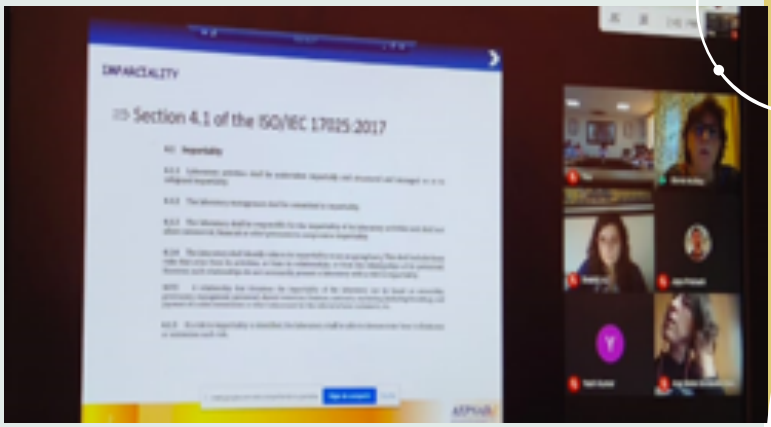
Training on Good Clinical Practice (GCP)

On August 7, 2020, a training programme was conducted on "*Good Clinical Practices (GCP) & Recent Updates on Regulatory Requirement by the Laboratory*" in which various sessions were taken by Professor Y. K. Gupta, former Head, Department of Pharmacology, AIIMS, New Delhi & Principal Advisor, THSTI-DBT, Government of India, and Dr. Pooja Gupta, Associate Professor, AIIMS, New Delhi. The basic objective of this training was to ensure that research trials are conducted in accordance with approved experimental plans with rigor and integrity in respect to human studies and data derived from research studies are reliable for implementation in dope control analysis.



High Resolution Mass Spectrometer (LC-HRMS)
Q Exactive Orbitrap HF





Training on Quality Management System (ISO/IEC 17025:2017 & WADA ISL 2021)

On October 23, 2020, a series of web-based training was conducted by the laboratory on Quality Management System (QMS)- ISO/IEC 17025:2017 in compliance with WADA ISL and the sessions were taken by Dr. Gloria Munoz, Vice Director, Doping Agency (AEPSAD), Spain.

Re-assessment of ISO/IEC 17025: 2017

Renewal of NDTL accreditation in accordance with ISO/IEC 17025:2017 in the discipline of Chemical and Biological Testing has been successfully assessed by an Assessment Team of the National Accreditation Board for Testing and Calibration Laboratories (NABL), and the Laboratory has been issued a Certificate of Accreditation (COA) as per the standard ISO/IEC 17025:2017.The purpose of the ISO re-assessment inspection was in compliance with the WADA ISL.





In-house Training on Quality Management System (WADA ISL 2021)

In-house training on implementation of WADA ISL 2021, Cl. 5.0 & Code of Ethics was conducted at NDTL from November 24 to 27, 2020. The training was imparted by Dr. Shobha Ahi, Scientist 'C' & Quality Manager, NDTL. All the NDTL Staff Members attended this training.

Celebration of Constitution Day

On November 26, 2020, the Laboratory celebrated the Constitution Day, also known as the National Law Day, to commemorate the adoption of the Constitution of India. On this day, an 'Integrity pledge' was taken by the Scientific Director, Scientists and all Staff Members of NDTL.





ICMR Site Visit & Inspection

On December 14, 2020, a team of Experts headed by Professor Balram Bhargava, Secretary, Department of Health Research (DHR) & Director General, Indian Council of Medical Research (ICMR) visited the Laboratory for independent assessment of the laboratory and to sumbit recommendation to the Government of India for enhancing the capability of the laboratory to meet the challenges and opportunities of the coming time.¡



Hindi Activities (हिन्दी गतिविधियाँ)

राजभाषा हिंदी को बढावा देने हेतु, राष्ट्रीय डोप परीक्षण प्रयोगशाला (एनडीटीएल) के समस्त अधिकारी व कर्मचारी द्वारा हिंदी में कार्य करने का पूरा प्रयास किया जा रहा है। प्रशासनिक स्तर पर हिंदी में अधिक से अधिक कार्य करने का प्रयत्न किया जा रहा है जैसे कि फाइलों, दस्तावेजों, नोटिंग, टिप्पणी हिंदी में लिखना और हस्ताक्षर करना, प्रवशिट पंजिका में हिंदी में नाम लिखना व हस्ताक्षर करना, समय–समय पर हिंदी की बैठकें आयोजित करना आदि। एनडीटीएल में प्रतिवर्ष हिंदी पखवाडे व प्रतियोगिताओं का आयोजन किया जाता है एंव नकद पुरस्कार भी दिए जाते हैं। इस वर्ष भी कोरोना महामारी को ध्यान में रखते हुए और सभी नियमों का पालन करते हुए 14.09.2020 को हिंदी दिवस मनाया गया। युवा कार्यक्रम और खेल मंत्रालय की राजभाषा कार्यान्वयन समिति की तिमाही बैठक (वर्चुअल रूप) मे सभी संबधित सदस्यों ने दिनांक 28.12.2020 को भाग लिया ।



Participation of NDTL in EQAS

WADA's External Quality Assessment Scheme (EQAS) allows evaluation of laboratories' competency through a continuous assessment of their performance and provides laboratories with opportunities to compare their results, intending to enhance harmonization of test results among accredited laboratories. NDTL is actively participating in various EQAS schemes like World Anti-Doping Agency External Quality Assurance Scheme (WADA EQAS), World Association of Anti-Doping Scientist (WAADS), Quality Control Centre Switzerland (CSCQ). and has successfully met the expectations of the WADA while participating in all such tasks.





National Dope Testing Laboratory (NDTL)
J.N. Stadium Complex, East Gate No. 10,
Lodhi Road, New Delhi-110003, India
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Fax: +91-11-24368850, 24365530
Email: ndtlindia@nic.in
www.ndtlindia.com

सत्यमेव जयते

राष्ट्रीय डोप परीक्षण प्रयोगशाला NATIONAL DOPE TESTING LABORATORY ndtl NEW DELHI नई दिल्ली

Art, Design and Web Version **Shailani25@gmail.com**