Clinical Examination of Alleged Drunken for Medico-legal Purposes



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Clinical examination of an alleged drunken person for medico-legal purpose

- Drunk and disorderly
- Drunken driver (a person in charge of motor vehicle)
- Government Officer working under influence of liquor
- A person arrested for any other offence when examinations are done to certify whether he is fit for detention
- Any victim of an criminal offence with associated drunkenness



Drunk & Disorderly

To be drunk is not an offence. Unless the drunken person is behaving or acting in ways which dangers another person, causes annoyance or damage to public property.





Offences Committed under the Influence of Liquor (Special Provisions) Act. (Act 41-1979)

Offence

 Public place or a place where it is a trespass for him cause annoyance

Punishment

• Fine 1500-3500 or imprisonment >1 < 2 years

causes damage to public property

• Imprisonment > 6/12 < 2 years and fine Rs.1500-5000



- Any Peace Officer may arrest these persons without a warrant
- if the Peace Officer refer to a Government Medical Officer to carry a test to ascertain the person is under the influence of liquor
- Government Medical Officer should submit a report to the peace officer
- Peace Officer can refer the person for a breath analysis test.
 (Breath Analyst test- CTB doctor)

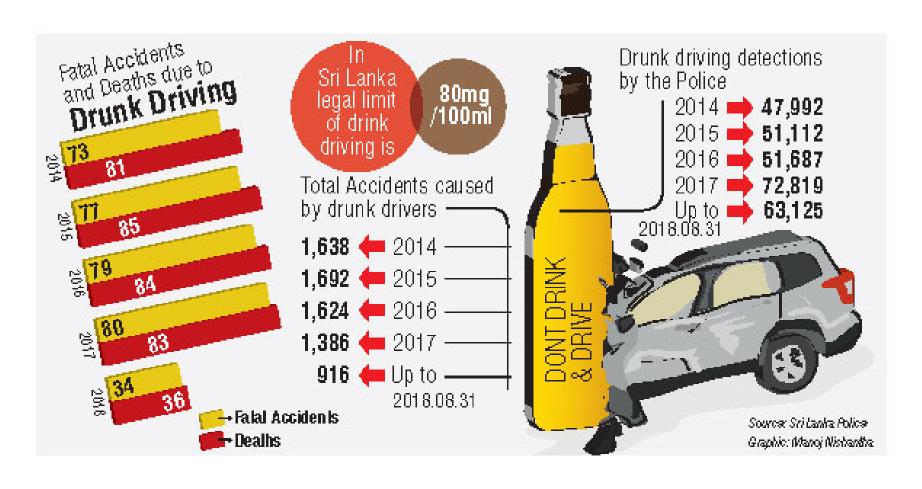
Government Medical Officer has the authority to examine a person to ascertain whether he/she is under the influence of alcohol



Alcohol intoxication -Is it a significant problem in active and passive road users of Sri Lanka?

40,000-42,000 RTA per year

Further due lack of research as well as statistics the prevalence of alcohol intoxication in road users are not known





Laws governing Drinking & driving of a vehicle Motor Traffic (Amendment) Act. (No: 40-1984) Section 151

- No person shall drive a motor vehicle on highway after he has consumed alcohol or any drug.
- 1c a) A police officer suspects that the driver of a motor vehicle of a highway has consumed alcohol he may require such person to submit himself immediately to a breath test for alcohol or an examination by a Government Medical Officer in order to ascertain whether such person has consumed alcohol.



How to ascertain Consumption of alcohol (Regulations 151 &237 of 1984)

Breath test

- By a police officer
- With a device
- Approved by the IGP
- Concentration of blood alcohol of 0.8 g of alcohol per 100ml of blood

Clinical Examination by GMO

 Clinical examination by the GMO states that he is under the influence of alcohol

If the person refuses to subject himself to either of the above methods he is presumed to have consumed alcohol



Effects of alcohol on performance of driving

- Alcohol is a CNS depressant
- Alcohol has an effect on
 - reaction time,
 - tracking,
 - concentrated attention,
 - divided attention,
 - information processing,
 - visual function,
 - perception,
 - psychomotor performance,
 - driver performance



Alcohol effect & driving (higher centers)

- Euphoria, lowering of inhibitions of higher centers
 - Loss of concentrations
 - Over confidence- taking risks not usually taken
 - Carelessness
 - Loss of self control
 - False senses of driving better

Speeding, Moving lanes quickly, Multitasks during driving affects







Alcohol effect & driving (cortical sensory function)

- Impairment of vision including colour vision & tunnel vision
 - Stronger illumination is required
 - Dimly objects not seen
 - Take longer times to recover when dazzled by strong lights
 - Reaction time to light, noise & touch is increased
 - Vehicles coming from sides will not be visualized





Night driving impaired, colour lights are ignored or not seen, vehicles coming from sides not seen



Alcohol effect & driving (Depression of cortical motor function)

- Loss of muscle control
- Muscular in coordination
- Affection of fine & skilled movements
- Clumsy & unsteady
- Effective control of the vehicle is lost

Accuracy of steering decreases
Steering wheel movements increases
Tendency to sway increases







Effects of alcohol on reaction time & divided attention

- Reaction time is delayed
- Applying breaks when needed is delayed
- risk of accident is high
- Divided attention or doing two tasks together is delayed
- such as sudden pedestrian stepping and breaking is prolonged

Increase incidence of accidents- Accident prone



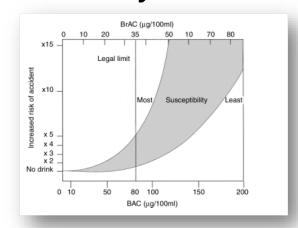






- Impairment is commonly seen at 70 mg/100 mL of blood,
- In 20% of impairment is seen at low levels- i.e. 10 and 40 mg/100 mL of blood
- BAL Vs Accident Occurrence (1960s in Grand Rapids study

Blood alcohol (mg/100 mL)	Accident occurrence
50-100	1.5 times as frequently
100-150	4 times as frequently
Over 150	18 times as frequently



Countries adopted legal limits of BAL in their laws USA/UK 80mg/100ml, USA-

100mg/100mL, Australia 50mg, Sweden 20mg, NZ, Russia 0.

Many country states that it is unlawful to drive a vehicle under the influence of alcohol Some have developed age specific legal alcohol limits



Police officer & drunken driver







Many parts of the world including Sri Lanka (UK, USA) a police officer cannot stop any person driving a motor vehicle on the road, and conduct a breath test.

There has to be objective evidence to suspect that driver has consumed alcohol and driving the vehicle



Police can currently carry out a breath test only if a motorist has been driving erratically, been involved in an accident or committed another offence while driving, such as having a faulty tail light or speeding.



Police officer & breath testing for alcohol

- Only a trained police officer in uniform is empowered to test
- approved equipments
- Road side breath testing (screening test)
- Test for accurate and final testing is done at Police Station by an approved device or blood/ urine sent for lab



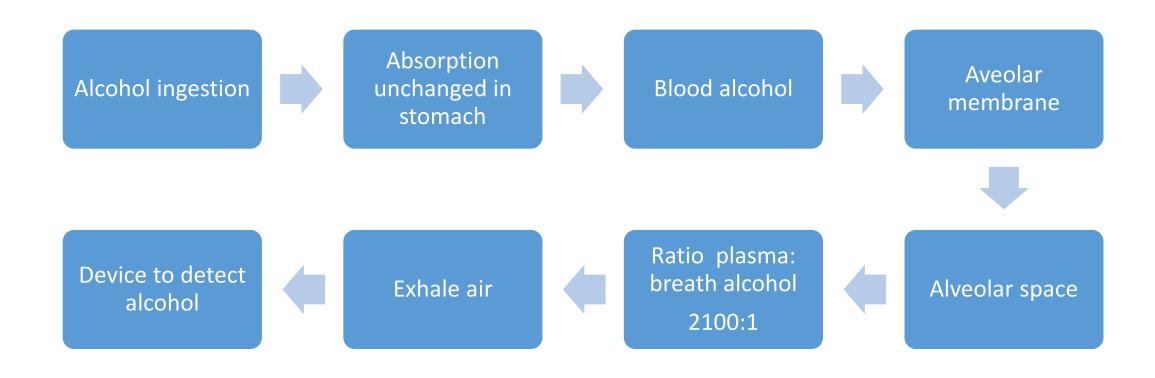








Breathalyzer test Principle





Development of

- breathalyzers
- first practical roadside breath-testing. device was the drunkometer
- Invented by Professor Neil Harger in 1938
- breath sample goes directly into a balloon inside the machine
- pumped through an acidified <u>potassium</u> permanganate solution.
- If alcohol is in the breath sample, the solution changed colour.
- The greater the colour change > alcohol



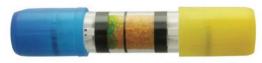


Breathalyzer principle- The chemistry



Ethyl Sulfuric Potassium Dichromate Alcohol Acid (reddish-orange)





Some colour change: Alcohol Present

You may be impaired. Alcohol levels can rise as well as fall after drinking. Do not Drive - wait 60 mins and test again.



Over the Line - DO NOT DRIVE

You are Illegal to drive in Scotland, France & Ireland and most likely over the higher limit in England/Wales as well.



Colour of the chemical



Breath alcohol



Change colour



Measure





Breath testing in Sri Lanka

- Very basic breathalyzer used for screening in other counties
- Consist of a balloon and a device to measure alcohol level
- Deep breath>blow once> see the colour change above the red marking









My own experience in Sri Lanka

- 1st of January,2002 around 8.30 a.m. a driver was brought for examination of drunkenness
- Positive breath test- want to confirm with a doctors examination too because he has knocked down a man who is dead now
- Asked the person to blow to the device till it turned green.
- I found him not impaired but stale smell of alcohol in breath

Incorrect procedure in breathalyzer testing is seen in Sri Lanka



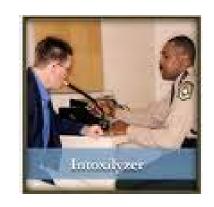
Breath testing devices in other countries

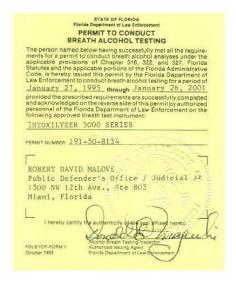
 Breathalyzer - Uses a chemical reaction involving alcohol that produces a color change in a chemical & compare with unreached mixture in photocell mixture and calibration is given

Intoxilyzer - Detects alcohol by infrared (IR) spectroscopy – calibrated accurately (used in police stations to test alcohol which report is used for courts)

 Alcosensor III or IV - Detects a chemical reaction of alcohol in a <u>fuel cell</u> – they have potable and static devices- only test the alveolar sample not mouth air sample















Criteria for breath testing in other countriesevidential breath sample

- Analyzed with approved devices (Intoximeter EC/IR, Camic Datamaster, Lion Intoxilyzer 6000, and Drager Alcotest 7100 (Australia).
- Only trained officers use the machine
- lower of the two readings is taken
- Criteria to be fulfilled by the driver
 - Not smoked 10 minutes prior to the incident
 - Alcohol, mouth spray, mouthwash, medication, or consumed any food for 20 minutes prior to testing
- Action taken depends on results

UK drivers are not usually prosecuted at blood levels below 87 mg/100 mL of blood (3 standard deviations) to allow for procedural errors



Blood levels of alcohol/ or urine level

 Provision for BAL estimation with samples of blood and urine is provided in law

 Sri Lanka examination of blood alcohol level with a sample of blood is not there in living. Therefore if such need arise the Magistrate has to give a special order

 Two samples of blood are drawn- one for police testing/ one for examinee to be checked by any approved lab.



Widening of police breath testing powers

- Random breath testing of drivers (Finland)
- Sobriety check points/ DUI check points
- 22 countries including Australia, New Zeeland now have laws for random breath testing
- Booze buses & booze vans-(Victoria- Australia & NZ)















Breathalyzers for future

- Breathalyzers to be installed into vehicles of convicted drunk drivers (USA some states)
- Breathalyzers in school bus & public transport where driver has to blow before ignition of the vehicle
- Sweat checking device of alcohol for convicted juveniles for drunk related offences
- Toyota has already Integrated Breathalyzers in Cars







Medical examination for under the influence of alcohol/ intoxication

Signs of UI for Alcohol and or Drug depends on the individual' s BAL may or may not co-relate to clinical signs of alcohol

In Sri Lanka Medical examination is done for evidential proof of consumption of liquor if examinee is found to be under the influence of alcohol



- Consent examination findings to courts, if he refuses, only observations can be done (police officer should not be in the examination room
- History
- General examination- pulse, BP, Skin, injuries
- Relevant systemic examination
- Specific examination- memory & mental state, eyes including HGN, hearing, tests of in-coordination, tests of reaction time, tests of divided attention
- Exclusion of diseases that mimic alcohol intoxication
- Opinion
- Filling of the MLEF
- MLR to the courts & oral evidence



Short comings in clinical examination

- High Individual bias attitude towards alcohol & place & time of conduction of the examination
- Physiological and psychological 'sobering effect' of the examinee on performing examinations
- Diagnosis is made on positive clinical findings and the smell of alcohol
- UI without smelling of alcohol- medical disorder, drugs or some brand of alcohol not giving any smelling
- Clinical examination does not correctively reflect BAL (novice, or a person used for drinking)
- No blood investigations are carried out as confirmatory evidence of presence of alcohol in the body
- No specified criterion of examination procedures or observations



Alcohol litigation in Sri Lanka- CASE LAWS

- Sumanarathna VS. Borella OIC- Appeal court Judgment
 - Consumption of alcohol cannot be proved by clinical examination of a person finding smelling liquor
 - Person to prove alcohol consumption has to be done where doctors examination proves that the BAL is above 80%
 - Examiner biasness is an inherent problem

Currently, CFPSL has developed an examination guideline to overcome some of the problems risen by examiner.

Guidelines will be incorporated into law in near future



World trends in medico-legal examination procedures in impairment testing

To provide high quality, equal standards, unbiased opinion based on scientific evidence

Examination formats, proformas, protocols and guideline are used more and more often and some have become statutory procedures



Standardized field sobriety tests (SFST)

Research on FST started in 1975 in California led to development of SFST. Validation of them were conducted in 1995-1998.

Out of 6 sobriety tests conducted 3 were found to be distinguishing BAL discriminate at or above 80 mg resulted 91% correct decisions



CFPSL developed examination guideline for medical officers based on these SFST

GUIDELINES FOR CLINICAL EXAMINATION FOR DRUNKENNESS BY GOVERNMENT MEDICAL OFFICER

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Medico-legal examination

- Preliminaries: Name, age, sex, date & time of examination, Producing police officer
- Observations as the suspects enters the room
- General behaviour
 - Mood
 - Self control
 - Demeanor- violent & abusive
 - Very little reactions
- Gait & stance (manner of walking & standing)
 - Walks in alone or with help
- Clothing- in disarray, torn, soiled with vomitus, blood, urine, faeces, or mud
- Speech- talkative, abusive, slurred or not
- Smell of liquor-



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සියල සෝසිටීමට සිදුලෙනුවා. මෙම පටිත්කණ ලසා සාරකයි. සිය සත යුත්තේ මා සියනු දෙය ඒ යුටුන්ම සිටීම පමණයි. සියට යම්ගිනි පෙැහිදීම යමත් දෙන්නම් එය නැවත හෝ පැහැදීම කථගන්න ROMBERG BALANCE TEST INSTRUCTIONS (The doctor should instruct the examines with demonstrations). Stand up straight with feet together with the arms down by the sides of the body. Tilt his head slightly backwards and then close the eyes. Keep the head in chin up position with eyes closed and estimate up to 30 seconds in mind. Bring down the head to initial position when 30 seconds have gone by. Open the eyes and say "finish". At the end of the instructions, the doctor should clarify whether the examines understood it and the answer must be recoded. When the examinee says 'yes', the doctor should commence the test. The doctor should actually time the test using a clock (the estimated period of 30 seconds by the examinee). Once the examinee opens the eyes and says "finished" the doctor should ask from him what was the time period estimated by him and how did he do it. Romberg Balance Test: Instructions in Sinhala දෙපා චිකළුණ ද දෙපත් දෙපත ද පමා මණයෙවන් සිටියන්න. ශික තිදුක් පසුපතට පසුත (නිකට තිකවා) දැන් විපත්ත. තමාව පැතෙන පවදි තත්. 30 ක කැලයක් මෙසේ රුදි සිටිස්ත. පත්තර 30 පරිතන සිත සංචන නිස් පරියම්වර ලෙස පත් විවෘත කර "පරිතාවේ" යාම පරිතන්න. Romberg Balance Test: Instructions in Tamil கால்கள் இரண்ணப்பும் ஒன்றாக வைத்துக்கொண்டு வைகள் இரண்டையும் உடகின் இருபறுமும் வைத்துக்கோண்டு இராக இற்கவும். தலைய சற்ற பின்றோக்கி சாம்க்குக, பின் கண்கள் இரண்டையும் முடவும். தலைய பின்றோத்தி சாப்த்தவன்னம் மனதிற்குள் முப்பது வின்றகளை என்னவும். முப்பது விளவுகளை என்னி முடித்ததும் தலையை சாதாரன நிலைக்கு சோண்டுவரவும் கண்களை நிறந்து என்னந்துவந்துவிட்டது என்று அறிவிக்கவும். Observations to be made by the doctor while the test is performed Eye lid tremors (positive if present) *Present Present* Absent Observe the direction and degree of sway (test is positive if there is a significant degree of sway) Answers given by the examinee (after the test) Positive* Actual time spent by the examinee estimated as 30 seconds (testis considered Negative positive if the estimated time is 10 seconds more). How many seconds estimated? (as per examinee) (test is considered positive if the Positive* answer is not 30 seconds) Negative How had he estimated the time? (method med retired or not) Irrational* Rational Comments of the doctor, if any

මන්පැන් හෝ මන්දුවල ශට්ටකතුවීම නිසා මහ සිටැරේ සම් දෙනකුත් සිදුව ඇත්දැයි සොයා නැමීම සඳහා පටින්මණ කිපස්තට



	s and do the test 5 points should be given.)						
Score obtained out of 5							
WALK AND TURN TEST							
INSTRUCTIONS (The doctor should instruct the examin	see with demonstrations).						
 Identify a real or imaginary line on the floor. 							
 Place the left foot on the line at one end. 							
 Place the right foot on the line in front of the left foot touching heel to toe. 							
 Place the arms down by the sides of the body and keep them in that position throughout the entire test. 							
 take nine heel to toe steps along the line 							
 At the 9th step turn around and take another nine steps in the opposite direction. 							
 Watch the feet and count each step out loud whi 	ile welking.						
At the end of the instructions, the doctor should clarify to IS YES/NO.	whether the examinee understood it as	nd the answer m	ast be recod				
Valk & turn test-Instructions in Sinhala							
 පොලොව එය කලේ වේ.මාවක් කළකුණු කර යන්න. මිරි 	සෙස් වුර්ද සම සෙටේ.						
 වම ගඳය රේඛාවේ එක කෙළවරක් එන තමන්ත. 							
 දකුණු පාදයේ විනුම පිම පාදයේ ඇතිමුතුට වනු ස්පර්‍ය පරිතකණය පුවසේ විශ්‍යණ දෙපත් දෙපත පමා පස්‍ය. 	ପରକଳ ପ୍ରେଲ୍ଲ ପାସ୍ତ ପଟି ପାସ୍ତତି କ୍ରିଥିବତ।	s neda.					
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• q:88a qnd qd org aga ga aga aga aga 6u8d							
 සිටෙර් ම අවසාසයේ සෙමේස්, කෙරී සිටෙර් ගමණිස් අං 							
 ඉස්පතු ඉදිරියට සමක් කර ආකාරයට දාපතු පියවර 9 	න් වේමාව දිගේ ආචිදිස්ක.						
Valk and Turn Test-Instructions in Tamil one authorized acting advance Carrier. Brights otherwise adjugate authorize Grey ungang access							
 வையு பாதத்தை இடது பாதத்திற்கு முன்னால் இடது கால் 		തെ ക്രോർ.					
 கைகள் இரண்டையும் உடலின் இருபறுகளையும் பரிசினரும். 							
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 ஒன்பதாகது பாத முடிக்கில் 100 கையாக நிறப்பி விண்டும் ந 	pikugi ungakaam nijigi nghijiba <i>ndik</i> i yu	Anna.					
	pikugi ungakaam nijigi nghijiba <i>ndik</i> i yu	Anna.					
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ONE LEG STAND TEST (in cases where there is a problem to perform the one leg stand test due to disability of the lower limbs finger nose test is mandatory to perform)

INSTRUCTIONS (The doctor should instruct the examinee with demonstrations).

- Stand with feet together with arms by the sides
- Raise the right foot six to eight inches off the ground, keeping the leg straight (without bending the knee) and the
 toes pointing forward with the foot parallel to the ground.
- Keep the arms by the sides and look at the elevated foot
- Count out loud stating from "One thousand one, one thousand and two etc."
- Stop the counting with the doctors command.

(Doctor should time the test for 30 seconds and give the command to stop)

At the end of the instructions, the doctor should clarify whether the examines understood it and the answer must be recoded as YES/NO.

Repeat the procedure with each foot.

One legistand test-Instructions in Sighala

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- පසුල පොළොවර සතින්තරව සිටිය සේ දක්වන සොසවා දකුණු පාදය පුකල් 6 8 ක් පතින පොළොවන් උඩව ජිතවන්ය.
- පදහන් කරිරයේ පදහන පමණකකම නිකවා ඇති පාදය පදන තිබුන්න. දැන් වික්දයන් වන වික්දයන් පදන ඇදි ව්යාපෙන් සම්ද කතා කතන් කරන්න.
- පෙව්දනවරයා පැවසු විට මෙම යෙන් කිරීම හොර කරන්න.
- මෙම පරිතකණය පුණිස් පාදයටද මෙලෙසම කරන්න.

One Log stand Test: Instructions in Tamil

- கால்களை ஒன்றாகவும்,வகளை இரண்டையும் உடலின் பக்கமாகவும் வைத்துக்கோண்டு இற்கவும்.
- வைது காலை அது நோடக்கர் எட்டு அங்குகம் வரை உயர்த்தவும். முழுக்கையை மறக்காது காலை நோக வைத்துக்கோள்கள் நெண்டும் கால் கட்டை விரம் முன்றோக்கியும், பாதமானது நிலத்திற்கு சமாந்தரமாகம்ற இதுக்குமாகும் பார்த்துக்கொள்ளன் நெண்டும்.
- கைன் இரண்டையும் உடலின் இருபறும் கைத்துக்கோண்டு உயர்த்திய காகை பார்க்கவும்.
- ஆபிரத்து ஒன்று, ஆபிரத்து இரண்டு என்ற ஆபிரத்து அறுவரை உண்ணவும்.
- material del cofembre des trans entre agreement distance

-	T SEPARA	THE SECURE OF SHIP	DODGE STREET, SEE DISSELVE.					
	Left	Right		L	efit	R	ght	Notes & Observations
	\wedge	\cap		Yes	No	Yes	No	
	U	ΙU	Sways*					
	^	^	Uses Arms to balance*					
	()	()	Hops*					
)		Put foot down*					

Each observation marked in * if present should carry 1 mark.

Total score is 8 (If the examines is unable to follow the instructions and do the test 8 points should be given.)

Score obtained out of 8

FINGER AND NOSE TEST(in cases where there is a problem to perform the one leg stand test due to disability of the lower limbs finger nose test is mandatory to perform)

INSTRUCTIONS (The doctor should instruct the examinee with demonstrations).

- · Stand with feet together and arms extended in front
- Keep the palms up extending both index fingers while other fingers are clenched.
- Tilt the head slightly back and close the eyes.
- . Touch the tip of the nose with the tip of the finger as instructed by the doctor.

At the end of the instructions, the doctor should clarify whether the examines understood it and the answer must be recoded as YES/NO.

Call out the hands in the following order, left, right, left, right, left



Flager ness inst: Instructions in Sinhala										
 თავ მოფლი თმი გიძ ფმესამ მდ თძი 										
 දෙයන්නු උති අතර පරිති දමර ඇතින් දිනු කොට අනෙක් ඇතින් සතින. සික තිදුන් පසුපතර සති දැන් විත සත්ය. 										
 සෙව්දුවරිණ මේ සේස පුවේ අතිස් සේ පුවව පුළ්තුස්ස 										
Finger Note Test: Instructions in Tamil	dro desea									
 கால்கள் இறன்பையும் ஒன்றாக வைத்துக்கோண்டு வைகள் இறன்பையும் முன்னால் நீட்டவும். 										
 உள்ளக்கான் பெற்றாக்கி இருக்குமாறும், அட்டு விரசை நிடியும் மற்றைய விரச்சுகை மடக்கியும் கைத்திருக்கவும். 										
 தலைய சந்த பின்றோக்கி சாய்த்து கண்கள் இரண்டையும் முடவும். கட்டு விரம் நண்டால் முக்கு நண்டை வைத்தியரின் அறிவுறந்தங்களிற்கு ஏற்ப தொடவும். 										
Observations to be made by the doctor while the test is performed										
Eye lid tremors (while doing the test with alread Muscle tremors Swaying Brought head forward										
eye) Yes* No	Yes*	No Yes* No Yes* No								
<u> </u>	Notes and Ob	bservations								
		Touches the tip								
	1	Yes No*								
2 (5)	2									
	4	Yes No*								
4 (0 6) 3	3	Yes No*								
	4	Yes No*								
	-	☐ Yes ☐ No*								
	5	Yes No*								
	6	Yes No*								
Draw lines to spots touched										
Each observation marked in * if present should										
Total score is 10 (if the examines is mable to follow Score obtained out of 10	the instructions and do the	the test 10 points should be given.)								
H.2. ANY OTHER TESTS S	OUNAVEE	PEODIC								
(decision should be made by the exa										
Test	Performed /not									
Ruler Drop test (test of reaction time)	1011012007200	250 Marie Co								
Finger to finger test (Coordination)		+								
Heel shin test (Coordination)										
Test of Dysdiadocholanesis		+								
(Coordination)										
Tests of fine movements (picking										
up small objects/buttoning de buttoning/										
writing, etc)										
Muscle power (UL/LL)										
Reflexes										
Any other		Wasser of stresses								
Specimen of blood or urine taken and stored f		Place of storage								
Consent for testing of the specimen for alcoho										
2** specimen handed over (signature of the examinee) Vital signs (Reneat) Pulse BP T ⁰ RR Breath sounds										
Vital signs (Repeat) Pulse		T ⁰ RR Breath sounds								
Date & time of the conclusion of the	examination									



Hospital For treatment of inju	orient others are		T 200-0			er medical conditions			
mospital For treatment of mj	mes omer ac	tille concurrous	Fure	er mvesugan	ons or ou	ser medical condutions			
Referral handed over to	the police o	officer: Yes N	ю П						
Name & Signature:									
		NGS AND INFERE	NCES						
Criteria to determine u									
The determination is done based on the clinical examination. Clinical findings are divided into major									
and minor criterion. The points are given according to a scoring system.									
	 Initial observation, General Examination findings, Breath smelling of liquor, and HGN are 								
	l as minor o								
		considered as major							
3. The condi	fions that in	ay mimic signs of u usion is made.	nder influ	ence of alco	onoi sho	ould be excluded			
J. INFERENCE		usion is made.							
Each component/test is co		ition solom more than	half of the	total allaga	ad as ask	to obtained Earling			
calculation each positive c	component is	given one mark and e		ive compone	nt carrie	s zero.			
	Categor	y		Score Ob		Final			
		<u> </u>		out of tot	al score	1			
1. Initial observation (8				/8					
2. General Examination	•	*		□ /8					
3. Breath smelling of li	quor prese	nt (1 mark)		/1					
4. Horizontal gaze nyst	agmus (4	or more)		□ /6					
5. Romberg Balance te	st (3 or mo	re)		□ /5					
6. Walk and turn test (5 or more)			□ /8					
7. One leg stand test (5	or more) o	r Finger and nose	test (6	□ /8	or 10				
or more)						, <u>.</u>			
Final Score						/7			
To conclude as under Influ	uence of alco	hol there should be a	minimum i	total score o	ffive(4)	(Le. 4 out of 7)			
K. OPINION									
No clinical evidence of di	runkenness	Breath smelling of		nfluence of		ice of use of other			
		liquor	alcohol		nces masking the				
smelling of liquor									
Ramarko / An dan moon	about 1/bosons	is conditions of affects	f description (4)	manantia (da.	as of abou	oa\ mimiokin = alaaha!			
Remarks: (Are there any natural/tranmatic conditions of effects of drugs (therapeutic /drugs of abuse) mimicking alcohol intoxication should be considered).									
	more and the second of the sec								
DETATILS OF THE E	DETATILS OF THE EXAMINER								
Signature	Name		Designati	on		Qualifications			

Standardized tests

- STANDARDIZED, in administration, documentation and interpretation.
- give exactly the same instructions to the examinees when we use these tests;
- record the suspects' performance in a prescribed manner;
- always look for a specific set of clues to determine to what extent the suspect is impaired.
- Interpretation of the result is based on objective analysis and criteria and does not vary on the examiner



SFST – Horizontal Gaze Nystagmus

- A object moving together with the moving object)
- Distinct and sustained nystagmus at maximum deviation (jerking at the corner when moving object is at the corner)
- Angle of onset prior to 45 degrees (jerking stats at the or prior 45 degrees)







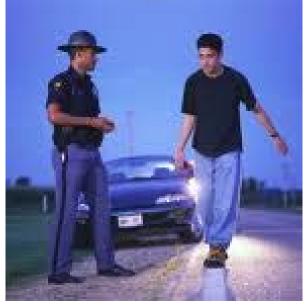


SFST – walk & turn test

- Proper clear instructions aided with demonstrations
- Commencing of the examination after being understood by the examinee
- Observing the specified things
 - Starting too soon
 - Cannot keep balance
 - Stops walking
 - Miss heel-to –toe
 - Raises arms
 - Wrong number of steps
 - Terns improperly









One leg stand test

- Proper clear instructions with demonstrations
- Commencement of the examination and finishes at 30s when instructed to finish
- Observing specified states
 - Sways while balancing
 - Uses arms to balance
 - Hopping
 - Puts foot down







Finger nose test (Standardized but not validated)

- Usually done when one leg stand test is not possible due to KJ problems, overweight, old age etc
- Instructions with demonstrations
- Observed for
 - Body sway
 - Correct hand use
 - Correct place at the nose touched









Romberg balance test, standerdized but not validated

- Clear instructions
- Checks internal clock
- Measures body sway anteroposteriar or sideways
- Internal clock timed by the patient compare with the instructed time





Basis of the divided attention psychophysical tests

- safe driving demands that operators of vehicles properly where many things are done at the same time.
- Examinee should be able to perform tasks of divided attentions
- Tests are designed to test the ability of all
 - Short term memory
 - Understanding the tasks
 - Coordinating movements
 - Reacting quickly



Medical examination is done not to prove blood alcohol level in other countries, but to exclude any medical condition other than alcohol or drugs as the cause of the driver's behavior



MLR & Opinions to a Court of Law

- Can send as free style reports or in formatted report
- Many parts of the world medical reports are free style reports
- CFPSL drafted a formatted report
- Easy and ensure equal standards to everybody
- Quick to fill and save time
- Free individual thinking of the expert is limited



Medico-Legal Report Clinical Examination for drunkenness

Magistrate's Court:			Case	No:		Date of Trial:				
Ser	ial No:	MLEF No:	Police	Station		Date of Issue				
	A. IDENTIFICATION	l								
NA	ME IN FULL									
AG	E		SEX							
Ad	dress									
Pla	ce of Examination		Date &	time						
	te of Admission to hospital		Bed He	ead Ticket No.						
	B. PRELIMINARIES									
Pro	duced by									
	ason for medico- al examination									
Sni	c. EXAMINATION									
	C. EXAMINATION									
Ту	pe of Examination	on		Score Obtaine	d at the	examination				
1	Initial observation (5 or more)									
2	2 General Examination (5 or more)			/8						
3	Breath smelling of liq		()	/1						
4	Horizontal gaze nysta			/ 6						
5	Romberg Balance tes	t(3 or more)		/5						

1

6	Walk and to	ırn test (5 or more)			/8			
7		nd test (5 or more) or			/8			
		nose test (6 or more)			/ 10			
8	Test of read	tion time]/1			
8	Other tests							
Inj	uries (use t	he Annex if present)						
	D. INFERE	NCES						
		Category		Score	Obtained out of	1	Final	
				total s	core			
1.	Initial obse	ervation (5 or more)		/	8		/1	
2	General E	xamination (5 or more	e)	/	8		/1	
3	Breath sm	elling of liquor presen	t (1 mark)	/	1	/1		
4	Horizontal gaze nystagmus (4 or more)				6	/1		
5	Romberg Balance test(3 or more)			/	5	/2		
6	Walk and turn test (5 or more)			/	8	/2		
7					8	/2		
_	Test of rea	nose test (6 or more)	1		10		/1	
8		ction time		/	1		/1	
	al Score						/ 11	
Тос	conclude as ur	der Influence of alcohol	there should be	a minim	um total score of six (6) (i.e.	6 out of11)	
	E. OPINIO	N						
No	o clinical evid	ence of drunkenness	Breath smel liquor	ling of	Under influence alcohol	o n	vidence of use of ther substances nasking the melling of liquor	
							<u> </u>	
mir	nicking alcoh	here any natural/traur ol intoxication.	natic condition	s of eff	ects of drugs (thera	peutic	/drugs of abuse)	
DET	TATILS OF TH	E EXAMINER						
Sign	nature	Name		Desig	gnation		Qualifications	



Drugs & Driving

- Consumption of drugs effects the driving ability as many of them are either CNS depressants or stimulants
- Many may mimic drunkenness/ Intoxication with alcohol.
 Therefore high suspicion rate is needed to detect.
- In the examination protocols clues about the drugs could be detected from the changes of the internal body clock, and general signs
 - Amphetamine, cocaine reduced internal body clock
 - Heroin will increase internal body clock
- Investigations of presence of drug/ levels in blood confirm the diagnosis



Driving and Fatigue

- Driving while sleep deprived, especially late at night and at dawn, increases the risk of having a 'microsleep' and losing control of your vehicle, hence accidents
- Reduce sleep affects- CNS (research indicates- Reaction time, swaying, switching of lanes tunnel vision)
- Examination of patients for drunkenness may be associated with fatigue
- Proper history taking and examination is a must to come to an opinion



Summary

- According to the Law A Government Medical Officer has to examine person who has been allegedly consumed alcohol for medico-legal purpose
 - Behaving drunk & disorderly (Act 41-1979)
 - Motor traffic Act for alleged drunken drivers
 - Persons detained in police custody
- Clinical examinations have its own limitations as we are testing effect of liquor on the different systems in the body, which is not unique to alcohol but can occur in various other conditions



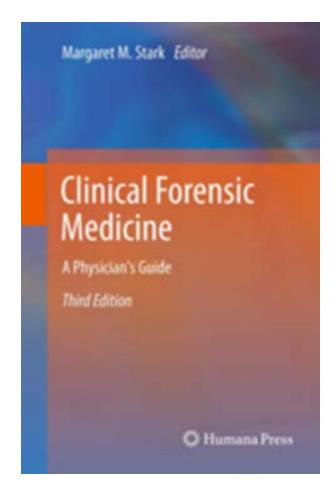
- Medical diagnosis of intoxication with alcohol has criteria
- Each country has specified BAL for driving –SL 80mg
- Testing blood alcohol levels are done by Police Officers using breathalyzers which has its own limitations
- Under the influence of alcohol / intoxication is clinical condition which may or may not be related to level of blood alcohol levels because there is individual variation and situational variations
- Standard field sobriety tests developed in USA is now used in many countries in clinical examination of individuals for drunkenness



- Currently, examination of drunken drivers litigations based on clinical medical examination has a problem. Smelling of alcohol & under influence of alcohol relationship to blood alcohol is difficult to determine
- CFPSL has developed an examination format/protocol and forwarded to National Injury prevention committee and expected to be legalized in near future
- Examination protocol developed based on research will standardize the examination procedure and minimize examiner biasness
- Formation of opinions is based on logical reasoning with a marking score will minimize expert biasness



Recommended reading- chapter on traffic medicine & substance abuse













Thank

