Twenty Years of Breath Testing in The Royal Canadian Mounted Police

J. Hoday

INTRODUCTION

During the early 1950s in Canada, chemical tests for intoxication were carried out on blood and urine samples from living persons suspected of being under the influence of alcohol while driving a motor vehicle. Smith's modified Widmark procedure was the method used to determine the respective alcohol levels of the body fluids mentioned. This technique was soon supplemented with a G.C. technique to ensure absolute specificity for ethyl alcohol. These two methods are still used today in the Royal Canadian Mounted Police Crime Detection Laboratories in Canada.

There was, however, only minimal use of the results of such chemical tests in the Courts for two main reasons. In the first instance, the necessary samples were difficult to obtain as they could only be obtained on a voluntary basis, i.e. the subject had to consent to any sample of his/her blood or urine being taken for court purposes. The main objection to giving a blood sample was the fact that a needle had to be used to obtain the sample. People generally do not like needles! As well, medical personnel were reluctant to become involved because of subsequent court attendances (lost time) and the inevitable cross-examination period on the witness stand. It was apparent that any reliable chemical method to determine the blood alcohol level of an individual other than involving medical personnel and the use of needles would be acceptable to the parties concerned.

The second reason for minimal use of the results of chemical tests for intoxication in the Courts at that time was the lack of scientific research to support the opinions stated by the 'experts' as to the correlation of a particular blood alcohol concentration with ability to drive a motor vehicle. Opinions were based on sound studies. The impact of these opinions were lost in a general misconception of the meaning of the word 'Intoxication' as opposed to the word 'Impaired'. The former, of course, denotes under the influence of alcohol to the extent where physical symptoms are observable, i.e. staggering, slurred speech, etc.; whereas the latter denotes being under the influence of alcohol where an individual's abilities (to drive in particular) are lessened or impaired when compared to his/her normal behaviour. The latter recognises impairment in such areas as judgment, reaction time, depth perception, etc. which occur long before the intoxication stage of alcoholic influence. Opinions expressed by the 'experts' were merely considered as such. There was not a preponderance of scientific study, in the minds of the judiciary, to ensure the acceptance of such opinions. Each case was thoroughly contested and usually decided on the evidence of the arresting police officer, i.e. signs of intoxication. Although the correlation studies conducted were scientifically sound there were not enough of them to influence the judiciary. The comment by a defence lawyer that 'that would be the situation for the average individual — but my client has not been shown to be an average individual' usually was sufficient for a dismissal of the charge against his client. It was a time when the judiciary, the public, and even the police officer had to

---

*Chief Scientific Adviser, Royal Canadian Mounted Police, Canada
be educated in the true ramifications of drinking and driving. Through the development and eventual acceptance of breath testing for blood alcohol concentration — over a twenty year period — this goal has been achieved in Canada. Yet there is still much to be done. Table I illustrates the fatal motor vehicle accidents (M.V.A.) in Canada during 1971–1975. Alcohol involvement is still estimated as at least 50%. The task of reducing alcohol-involved motor vehicle accidents has not been appreciated by all of those who should be concerned. The task, however, has been made easier through the introduction of reliable breath testing for alcohol in Canada during the latter portions of the 1950s.

<table>
<thead>
<tr>
<th>Year</th>
<th>Fatal M.V.A.s</th>
<th>Persons killed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1971</td>
<td>4670</td>
<td>5573</td>
</tr>
<tr>
<td>1972</td>
<td>5233</td>
<td>6221</td>
</tr>
<tr>
<td>1973</td>
<td>5479</td>
<td>6706</td>
</tr>
<tr>
<td>1974</td>
<td>5204</td>
<td>6290</td>
</tr>
<tr>
<td>1975</td>
<td>5119</td>
<td>6075</td>
</tr>
</tbody>
</table>

Initially, a program was introduced into the Provinces of Ontario and British Columbia in the early 1950s. Soon after a program was implemented within the Royal Canadian Mounted Police in the Province of Saskatchewan. The breathalyser was selected for use as the breath testing instrument after considerable researching and evaluation. Breath testing was introduced through Provincial legislation in Saskatchewan. The legislation was similar to the so-called ‘implied consent’ law in a number of the States within the U.S.A., i.e. there would be a loss of licence for refusal to submit to a breath test upon a demand by a Police Officer. Considerable controversy arose over this legislation. The ‘drink driving’ laws in Canada are Federal laws applicable in all of the Provinces. The ‘implied consent’ law was a Provincial law only and was deemed by some to be invalid when used in conjunction with Federal laws. In 1959 the issue was presented to the Supreme Court of Canada for decision. The validity of the Provincial law was upheld. A major battle had been won in the development of our breath testing program.

TRAINING

It was recognised at an early stage that in order to have an effective and reliable program, responsible personnel were required to develop, implement and direct the program. The RCMP program was formulated essentially by Dr B. B. Coldwell of our Laboratory staff in collaboration with Dr H. Ward Smith of the then Attorney-General’s Laboratory of Ontario.

An intensive ten-day training program was developed which produced competent Breathalyser operators, who were capable of understanding alcohol related problems and could become involved in their respective communities to educate the public with respect to drinking and driving. Our Breathalyser operators are exposed to as many aspects of the use of alcohol as is possible during their training program. They are taught the basics in the physiology and pharmacology of alcohol. They appreciate what 80 mg of alcohol per 100 ml of blood means through practical experience under controlled conditions. They appreciate what the drinking driver is experiencing when he is confronted with a breath test situation in a police station. The Breathalyser operator has played a major role in our breath test program in Canada. It is through his quality of service in the handling of the breath test subjects and his reliable scientific procedure that the program remains acceptable to the public and to the judiciary.
During the first fifteen years of breath testing in Canada, the Breathalyser operator was required to appear in court for every contested case. He was on the firing line and had to perform in a first class manner. The laboratory witness was required to appear in court as well to provide the necessary technical and interpretative evidence. To facilitate a proper understanding of breath testing generally, concerted efforts were made to educate the public and, in particular, the judiciary. Numerous group demonstrations were held for various sectors of people. The principles of breath testing and the Breathalyser were thoroughly discussed. Controlled drinking sessions were conducted and the subjects were breath tested. Needless to say, these demonstrations went a long way towards educating the judiciary in the aspects of breath testing. Nevertheless there was still considerable attack on breath testing by lawyers, civil liberty groups and in some instances by the courts themselves.

EXPANSION

The program began to expand to the other Provinces of Canada in 1965. Complete Provincial implementation in Canada was accomplished by 1967. Table II indicates the expansion of the number of Breathalysers in service, under RCMP jurisdiction, from 1970 to 1976, and tests conducted during that period.

With the expansion of the program a Training Manual was prepared to ensure standardisation of training throughout the country. The experiences of breath testing in Saskatchewan for the seven years prior to 1965 were reviewed. The difficulties and problems, as well as the successes and advantages, of the program were isolated and assessed in order to ensure acceptance of the program in the other Provinces as it was implemented. A unification or standardisation of the program was achieved.

During this period a Special Committee On Breath Testing was formed by the Canadian Society of Forensic Science. It is still operational today. It is composed of individuals prominent in the field of breath testing and representative of the Canadian breath test programs in general, i.e. the RCMP and the three other major Canadian law enforcement support agencies. All of the programs are directed and supported by Canadian Forensic Laboratories. The task of the Special Committee is ‘to study technical and enforcement problems related to breath tests, with a view to drafting recommendations on Standards and Procedures’. It is through this Committee that recommendations are made to the Federal Justice Department concerning breath testing procedures and instrumentation for use in Canada. The latter involves the areas of evidential breath test instruments, roadside screening devices and remote breath sampling units.

TABLE II  Breathalyser Locations and Tests Conducted in Canada 1971–75

<table>
<thead>
<tr>
<th>Year</th>
<th>Breathalyser locations</th>
<th>Tests conducted</th>
</tr>
</thead>
<tbody>
<tr>
<td>1971</td>
<td>288</td>
<td>33 035</td>
</tr>
<tr>
<td>1972</td>
<td>338</td>
<td>37 997</td>
</tr>
<tr>
<td>1973</td>
<td>391</td>
<td>44 758</td>
</tr>
<tr>
<td>1974</td>
<td>444</td>
<td>51 154</td>
</tr>
<tr>
<td>1975</td>
<td>496</td>
<td>56 708</td>
</tr>
</tbody>
</table>

Because, in Canada, the administration of the laws (Federal, Provincial, etc.) is within the jurisdiction of the Provinces, there was the danger that each of the Provinces would institute separate breath testing programs within their respective boundaries. A major unifying link during the expansion of breath testing in Canada has been the role of the ‘Special Committee on Breath Testing’ and the co-operation between the Canadian Forensic Institutions. Thus the full development of breath testing in Canada has virtually been a co-ordinated
and co-operative effort. That is not to say that there have not been any problems. Some Provincial Attorneys-General instituted a single test procedure versus the scientifically correct two-test procedure for Breathalyser operation. Some Courts required proof of the suitability of the ampoule solution for use in the Breathalyser while others placed more weight on the suitability of the standard alcohol solution used for each test to ensure the satisfactory functioning of the Breathalyser instrument. These are but examples of the problems encountered.

**FEDERAL BREATH TEST LEGISLATION**

As a result of the experience of fifteen years of breath testing in Canada, the Federal Parliament of Canada legislated into the Criminal Code a compulsory breath test law, i.e. it became an offence to refuse a demand by a police officer to submit to a Breathalyser test. The police officer required reasonable and probable grounds to believe that a person was committing, or has committed within two hours previous, the offence of impaired driving prior to making the demand for a breath test. At the same time, a legislative limit of 80 mg% blood alcohol concentration was established above which it was an offence to operate a motor vehicle. These laws became effective on 1 December, 1969. These laws were legislated, in my opinion, as the result of breath testing experiences — over a fifteen year period — in the field (actual operations), in the laboratory (scientific testing), in the courtroom (almost judicial notice), and with the news media (the public). The experiences in these various areas were recognised by the Parliamentary Committee as being positive in nature and certainly aided their decisions which resulted in the legislation of these laws.

Since the introduction of the 1969 Federal legislation, the occurrence and/or detection of the impaired driver has not been reduced. It was soon recognised that the law enforcement officer in a roadside check situation needed an objective investigative aid to detect the driver who was in excess of the legislative (80 mg%) drinking limit. To provide such assistance Federal legislation was recently introduced (May 1976) providing for the use of Roadside Screening Devices (R.S.D.s). Similar provisions were made for refusing such a roadside test as for refusing a demand for a Breathalyser test, i.e. it is an offence to refuse such a demand subject to the same penalties as a conviction for impaired driving, refusing a Breathalyser test demand or being found to be over the legislative limit of 80 mg%. In order to demand a roadside screening test, a law enforcement officer need only to suspect that the particular person involved has alcohol in his body. If the person fails the roadside screening test, then this constitutes sufficient reason to believe that the person is above the 80 mg% legislative limit. As a result of such findings, with the use of a roadside screening device, the law enforcement officer can justifiably demand an evidentiary type Breathalyser test. He no longer requires reasonable and probable grounds that a person is committing, or has committed within the previous two hours, the offence of impaired driving. The police officer no longer has to discuss the symptoms of an impaired person. Usually what he looks for are the symptoms of the intoxicated or inebriated person before demanding an evidentiary breath test. Sufficient reason to suspect alcohol in a person’s body would be the smell of an alcoholic beverage on a person’s breath, admission of recent drink, or testimony from a witness as to the consumption of alcohol by the individual concerned. In essence, the use of a roadside screening device will provide a ‘sixth sense’ to the law enforcement officer in the detection of an impaired driver. A roadside screening device should be an objective and reliable aid to determine the blood alcohol concentration of a suspected drinking driver. The introduction of this legislation/program in Canada has provided a new philosophy in breath testing which, through proper implementation, will serve as an effective countermeasure in our anti ‘drinking-driving’ program. Properly introduced and implemented the general public will become aware of the positive measures being carried out to reduce the incidence of drinking too much and then driving.
Prior to the 1969 compulsory breath test legislation, the Breathalyser operator and a laboratory witness were compelled to appear in court in every contested breath test matter. The legislation contained provisions enabling the operator to use a 'certificate of analysis' to report the results of breath test performed by him. He no longer has to appear in court. In order to have him appear, the defence counsel requires 'leave of the court' with full justification. This provision for the use of certificates in our legislation exemplifies the confidence and trust placed in our breath test program by the Canadian Parliament. The use of certificates enables a greater enforcement effort by our police personnel.

The 1969 legislation also provided for an accused person to receive a sample of his own breath, for independent analysis, at the time a breath test was taken for evidential purposes. That portion of the law was not, and still is not, proclaimed into existence. The problem, of course, is to find a container suitable to store a breath sample for a period of time in which the sample will remain stable and provide reproducible results on subsequent analysis. The Special Committee on Breath Testing has not as yet fully evaluated a container suitable to recommend for designation as 'an approved container' by the Federal Minister of Justice. A number of containers have been presented for evaluation during the past eight years. We are anxious to be able to provide an accused person with a sample of his breath for two reasons. Firstly, to enable proclamation of that portion of the 1969 legislation and, secondly, it will enable a closer monitoring of field testing, i.e. a scientific control of the program. Over the years there have been few opportunities to obtain samples for comparative or correlation purposes. Such samples are mainly obtained during our Breathalyser training courses. Occasionally blood samples are obtained from accused persons who do not believe the Breathalyser results and voluntarily submit to a subsequent blood sample. The Breathalyser results usually underestimate the results of the blood alcohol analysis.

FUTURE DEVELOPMENTS

Canada has been in a 'breath testing for alcohol' program for over twenty years now. The use of evidential type breath testing instruments is now fully accepted in this country. The immediate future will see emphasis on the enforcement of our 'drink-drive' laws through the implementation of a roadside screening program. Emphasis will be placed on public awareness of this program in an effort to deter driving after drinking too much alcohol. Better detection of drivers over 80 mg% blood alcohol should result with the use of roadside screening devices. An evaluation of the program after it has been in operation for a period of time will be made as to its effectiveness. It is planned to implement this program, in terms of equipment, over a three-year time period. Full implementation will provide for R.S.D.s at each Breathalyser location within the jurisdiction of the RCMP, i.e. between 1200–1500 locations. As with the introduction of the Breathalyser program in Canada, training standards have been set for both the user of the R.S.D., virtually every operational law enforcement officer, and for the calibration of the R.S.D. by a trained Breathalyser operator. Needless to say, equipment standards have also been set for R.S.D.s. At the present time, the only approved R.S.D. for use in Canada is the A.L.E.R.T. (Alcohol Level Evaluation Roadside Tester). I will not expand upon the principles or use of this device here as a presentation has been made on the A.L.E.R.T. at this conference. It is hoped that the roadside screening program will prove to be an effective countermeasure against the incidence of impaired driving.

I can foresee in the not too distant future the introduction of a remote sampling program, i.e. providing an accused person with a sample of his own breath for independent analysis. As previously indicated, such a program would fulfill present unproclaimed legislation and would provide an effective monitoring system of actual field operations. Such remote sampling equipment, under our present legislation, would in fact give an accused person two
separate samples of his breath. This is because our legislation provides for the Breathalyser operator to take a proper sample of breath which in scientific terms means at least two breath samples agreeing within 20 mg% of each other. The accused must be provided (offered) an independent sample each time he provides a single breath sample into an approved evidential instrument. At the present time there are no facilities for the independent analysis (i.e. non-forensic facilities) of breath samples in Canada. However, when such a program is introduced it is anticipated that such facilities will be readily available from private and independent laboratories.

If we continue to provide the best quality of service available, as has been done to this point in time in breath testing in Canada, I am sure that the next twenty years of breath testing in Canada will be as productive and rewarding as the first twenty years have shown.

REFERENCES