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# **CRITERIA**

## **FOR THE CERTIFICATION OF**

### **DRACUNCULIASIS ERADICATION**

Revised version following the first Meeting of the  
International Commission for the Certification of  
Dracunculiasis Eradication - 5 March 1996.



**WORLD HEALTH ORGANIZATION**

**DIVISION OF CONTROL OF TROPICAL DISEASES**

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## CRITERIA FOR THE CERTIFICATION OF DRACUNCULIASIS ERADICATION<sup>1</sup>



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<sup>1</sup> This document is a revised version of Document WHO/FIL/93.187, "Criteria for the Certification of Dracunculiasis Eradication", which was a document adapted from the Report of an Informal Consultation on the Criteria for the certification of Dracunculiasis Elimination (eradication), Division of Control of Tropical Diseases, WHO, Geneva, 19-21 February 1990. The original report was issued in the WHO/FIL series under the serial number WHO/FIL/90.185. The present revised edition includes recommendations by the International Commission for the Certification of Dracunculiasis Eradication at its first meeting, Geneva, 5 March 1996. The previous edition was based on comments and modifications made by a Round Table on the Criteria for the Certification of Dracunculiasis Eradication, 26 March 1993, Cotonou, Benin, on the occasion of the Second Meeting of Programme Managers for Dracunculiasis Eradication, organized by the WHO Regional Office for Africa in collaboration with UNICEF, Global 2000 and the WHO Collaborating Centre for the Eradication of Dracunculiasis (Cotonou, 23-26 March 1993). Participants at the meetings leading up to this document are listed in Annex 3.

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## 1. Introduction

Dracunculiasis (guinea worm disease) is a disease which is endemic in certain communities without access to safe sources of drinking-water and which has serious adverse effects on health, agricultural production and school attendance (see life cycle in Figure 1). Table 1 lists those countries where human dracunculiasis has been: (i) endemic during the 1980s, (ii) endemic or possibly endemic before 1980, (iii) endemic at one time in history, (iv) sporadically reported without evidence of endemic disease. Map 2 shows the countries that are included in these four categories. In 1996, there is still lack of knowledge about when transmission of dracunculiasis was interrupted in many countries. The listing of countries given in Table 1 will be updated as new information becomes available during future eradication and certification activities. The reliability of the data will also be checked and updated where necessary.

A global eradication campaign to eradicate dracunculiasis started in the early 1980s. In 1991 (WHO, 1991), the World Health Assembly endorsed the efforts to eradicate dracunculiasis country by country and fixed the goal of interrupting transmission by 1995 and achieving certification of eradication, at the global level, by the end of the 1990s (WHO, 1991).

The need for certification of attainment is inherent in the goal of an eradication programme, as opposed to the lack of such a need in a control programme. There must be an objective basis, according to agreed criteria, for determining whether dracunculiasis has indeed been eradicated; the criteria must take into account the risk of importation from neighbouring countries as well as the need for maintaining surveillance in neighbouring countries. It is expected that efforts of eradication of dracunculiasis for individual countries will be conducted until the final goal of global dracunculiasis eradication certification is achieved.

An independent International Commission for the Certification of Dracunculiasis Eradication (ICCDE) was established by WHO in 1995 to recommend to the Organization those countries which fulfil the requirements for certification, as well as to advise the Organization on criteria, procedures and progress made towards verification of absence of transmission, and contribute actively to the certification process in Member States. In 1996, a panel of specialists was created, the members of which can be assigned to the International Certification Teams (ICTs).

WHO, including the Regional offices, will facilitate national preparations for certification by carrying out regular visits by WHO staff, members of the designated ICT, or consultants to the country or subregion concerned. A register has been established of countries requesting certification and also of those countries where official certification of eradication is pending. WHO has also established an official register, listing countries where dracunculiasis has been eradicated, based on evaluations by the ICCDE.

The aim of the present paper is to describe the criteria for verifying the absence of dracunculiasis transmission. WHO has developed several documents related to eradication and certification: (1) a practical guide: "Certification of Dracunculiasis Eradication: criteria, strategies, procedures, (2) "Guidelines: Country Application for Certification as a Dracunculiasis-Free Area" and (3) "Recommendation for Dracunculiasis Surveillance in Selected Countries Without a Recent History of the Disease", which provide more detailed step-by-step guidance to countries in various epidemiological situations regarding dracunculiasis.

## 2. Definitions

A case of **dracunculiasis** is defined as an individual exhibiting or having a history of a skin lesion with emergence of a guinea worm (WHO, 1988). A recent history (within one year) of a skin lesion with emergence of a guinea worm is the only time-frame which must be used in surveillance programmes.

**Local eradication of dracunculiasis** is the confirmed absence of clinical illness (the interruption of transmission of *Dracunculus medinensis* in man) for three years or longer from a sizeable geographical unit (e.g., a country) with such a low risk of reintroduction of the parasite that preventive measures could be reduced to a strict minimum.

**Worldwide eradication of dracunculiasis** is the confirmed absence of clinical manifestations (the interruption of transmission of *Dracunculus medinensis* in man) for three years or longer at the global level.

## 3. Criteria for certification of eradication

Standard criteria for certification are needed for the following reasons:

- (1) To ensure international credibility for the expected future claim that dracunculiasis has been eradicated from an area.
- (2) To have an established and consistent mechanism for judging the success of recent national dracunculiasis eradication programmes.
- (3) To have a standard, effective procedure to identify and eradicate any previously unknown foci of transmission.
- (4) To help in the investigation of rumoured or sporadic occurrences of the infection in unconfirmed potentially endemic areas.

### 3.1 Countries with dracunculiasis transmission after 1980 (Group A, Table 1)

National governments, requesting certification of eradication, must submit to WHO a country report (see Annex 1) which describes the procedures undertaken and provides evidence in support of the assertion that dracunculiasis has been eradicated.

In these countries, eradication will be considered to have been achieved when adequate surveillance systems have not discovered any evidence of transmission derived from careful annual searches, carried out during the expected transmission season, for three consecutive years. Surveillance, to be adequate, should include active case detection carried out, if necessary, in the most remote areas of the country.

The objective of surveillance for dracunculiasis during the three-year pre-certification period is to rapidly detect and contain any cases that might occur, in order to prevent further transmission. Confirmation of the absence of transmission in a country is judged on the basis of:

(i) an assessment of the capability of the surveillance system to detect cases of dracunculiasis should they occur, and (ii) the records compiled by the national authorities, the quality of which can be determined during a field appraisal by an international certification team. In general, the reliability of certification will depend on the amount of time that has elapsed since the last known case and on the sensitivity of active surveillance.

The establishment of a claim in relation to a specific defined area, must fulfil the following conditions:

**3.1.1** Proof that an active case detection system has operated in the area for at least three years since the occurrence of the last known indigenous case. The best is to use a village-based surveillance system remaining in place in every formerly endemic village with a system for the rapid reporting of information to the next surveillance level. Surveillance coverage will be considered to be truly adequate: (i) if 85% or more of the village clusters placed under surveillance submit their reports each month, or (ii) if each village under surveillance provides its report at least nine months out of 12. A reward for the patient detected as well as for the health worker who identified the patient and took the appropriate measures (i.e. containment or hospitalization) strongly reinforces active surveillance.

*Rationale : There is no asymptomatic carrier state in dracunculiasis, the incubation period does not exceed one year, and there is no known animal reservoir. Normally it takes approximately two weeks for larvae ingested by cyclops to become infective, and the infected cyclops normally have a life-span of less than 50 days, at least in the conditions under which they were studied (Muller 1972). Therefore the absence of indigenous cases for a three-year period, in the presence of adequate case detection, can be accepted as proof of local eradication of the disease.*

**3.1.2** In the event of suspected importation to an area not endemic for dracunculiasis, it must be established that each confirmed case was in fact imported by tracing the case to its origin in a dracunculiasis endemic area. If this case has been fully contained the locality will not be considered an endemic focus. If, following importation, transmission occurs for one or more transmission cycles, the focus will be considered one of local transmission.

**3.1.3** Maintenance of a register of suspected cases of dracunculiasis reported or discovered during the three-year period. It is recommended that the date of worm emergence, age and sex of the patient, and place of residence of each person with dracunculiasis be recorded, preferably when the blister forms or before, and that adequate measures be implemented (i.e. containment, perhaps with hospitalization, and complete extraction of the worm). The register must also mention: (i) whether the suspect case was determined to be dracunculiasis or some other condition; (ii) the movements and activities of the patient since the emergence of the worm in order to identify all sources of possibly contaminated drinking water, and (iii) the origin and possible source of the infection.

*Rationale : Each worm emergence that is not detected carries the risk of new infections a year later. There is no vaccine with which to contain the spread of dracunculiasis by protecting individuals at risk of infection. Therefore, surveillance for dracunculiasis must be active and village-based. Effective containment of residual cases is critical.*

3.1.4 Give a detailed account of the history of dracunculiasis in the country (see Annex 1).

*Rationale : This is necessary for those who must judge the completeness of steps taken to eradicate dracunculiasis.*

**3.2 Other countries with a history or possible history of dracunculiasis transmission  
(Table 1 : Groups B, C, D)**

In these countries certification of eradication may be granted after the provision of satisfactory documentation that no residual foci of infection exist. Countries in this group represent a wide range of situations, from those which had transmission during the 1950s and 1960s to those which have had no reported transmission for more than 100 years. Therefore, requirements for certification will need to be tailored to each situation, relating to the following issues:

3.2.1 A detailed description of the extent of any former endemic area(s).

3.2.2 The possible need to present findings of at least one active case search, conducted within the last two years in areas which may formerly have been endemic. Any search(es) should be conducted during the expected transmission season and carried out village-by-village, or nationally supplemented by a widely publicized reward, using recognition cards with the local (vernacular) name for dracunculiasis. The results should ascertain that residual foci of infection no longer exist. To this end, data obtained by passive surveillance will also be given due consideration.

**4. Certification Procedures**

All countries should contact WHO to initiate the verification and certification process. The proposed sequence of events listed below should be kept flexible. This listing summarizes the process for certification.

- (1) WHO will distribute a set of international guidelines on verifying the absence of dracunculiasis transmission and certifying its eradication.

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