standard method. The leukocyte suspension was then centrifuged at 150 × g for 10 min at room temperature, the plasma removed, and the leukocytes resuspended in Medium 199 to make a final concentration of 3×10^6 PMN/ml. The recovery of leukocytes ranged between 60 and 70%. The final leukocyte suspension consisted of PMNs (50–70%), and 10–20 red blood cells per leukocyte.

The key point of this method is to place (or sandwich) the leukocytes between the 2 filter papers. After a small drop (about 10 µl) of Medium 199 is placed on a thick absorbent paper, a pre-wetted Millipore filter paper (5 µm pore size) is placed on the absorbent paper so that the filter paper is centered on the spot where Medium 199 was placed. Then, a plastic cube (1 × 2 × 7 cm) with 3 separate holes (5 mm in diameter) is placed on the filter paper so that each hole is centered with respect to each filter paper (figure). Thus, a well with the filter at the bottom is created. While pressing the plastic cube downward with 1 hand, 50 µl of cell suspension is delivered twice to the bottom of the well (3×10^5 PMNs). Within a few sec, the fluid of cell suspension is absorbed into the absorbent paper leaving cellular elements on the surface of the filter within the circular area of 5 mm in diameter. Quickly, the filter paper is removed from the plastic cube and the leukocytes are sandwiched by placing another wet filter paper on top of the leukocyte deposits. Care must be taken to avoid an air trap between the 2 filters. The 2 filter papers with sandwiched leukocytes are placed in a Boyden Chamber so that the filter with leukocyte deposits faces upward. After placing the screw tightly, Medium 199 is introduced into the lower compartment while the upper compartment is simultaneously filled with zymosan activated serum as a chemotactic attractant. Coverslips were placed onto the openings of the chambers so that the space between the coverslip and the chamber was sealed by capillary osmosis of overflowing fluid. The entire chamber was immersed into a water bath (37 °C) so that the upper surface of the chamber is just above the water level and incubated for 2 h or an appropriate time period.

After incubation, the fluid in both the compartments was removed with care not to disturb the migrated cells, and the 2 filters separated, fixed in 100% methyl alcohol for 2–3 sec and stained with Hematoxylin using the method of Boyden[2] with minor adaptation. Only those cells that had completely migrated through and reached the upper surface of the filter were counted using magnification × 400. The average number of PMNs per high power field is defined as a migration index (MI), which is shown in the table. The maximum number of PMNs (115 ± 20) was reached after 2 h of incubation. The spontaneous migration (or random movement) of PMNs was found to be minimal, ranging 0–1 PMNs/high power field. Some of the PMNs were found within the lower filter as far downward as 100 µm, but few completed migration down to the lower surface. The number of PMNs migrated to the top of the filter were directly proportional to the number of PMNs loaded initially (table).

I have used this method for the past 3 years, and have found it to be reliable and reproducible. It has been most useful in the study of neutrophil chemotaxis of some patients with diabetes mellitus, in which the spontaneous detachment of migrated neutrophils may frequently take place.

Effects of incubation time and number of cells loaded on neutrophil migration index of healthy volunteers (Mean ± ISD, N = 25)

Incubation time	Migration index
30 min	42 ± 12
60 min	95 ± 15
120 min	115 ± 20
Number of neutrophils loaded (120 min incubation)	
1×10^5	28 ± 8
2×10^5	62 ± 12
3×10^5	115 ± 20

1 Supported in part by N.I.H. grants: No. HL19628-03, No. DE04898, No. CA24215 and No. RR05493).

2 S. Boyden, J. exp. Med. *115*, 454 (1962).
3 H.U. Keller, J.F. Borel, P.C. Wilkinson, M.W. Hess and H. Cottier, J. Immun. Meth. *1*, 165 (1972).

PRAEMIA

Ruzicka-Prize 1980

Every year, a prize from the Ruzicka-Prize Fund is awarded to a young research worker for an outstanding work in the field of general chemistry that has already been published and achieved in Switzerland or by a Swiss national abroad. Proposals for candidates may be submitted before June 30th, 1980 at the latest to the President of the Board of the Swiss Federal Institutes of Technology, ETH-Zentrum, 8092 CH-Zürich.

CURSUS

Italy

Ispra Courses 1980

The Ispra establishment of the joint research centre of the Commission of the European Communities presents its 1980 programme of courses and seminars. Brochure with detailed description of the courses is available at the Secretariat Ispra-Courses, Centro Comune di Ricerca, I-21020 Ispra/Varese (Italy).

CONGRESSUS

Italy

7th international symposium on mass spectrometry in biochemistry, medicine and environmental research

Milan, 16–18 June 1980

For information write to: Dr Alberto Frigerio, Istituto di Ricerche Farmacologiche 'Mario Negri', Via Eritrea, 62, I-20157 Milano/Italy.

Czechoslovakia

International conference on xenobiochemistry

Bratislava, 9–13 June 1980

The conference is held on 'Biochemistry of metabolism and effect of xenobiotics'. Detailed information by: Prof. A. Jindra, Biochemical Institute, Kalinciekova 8, 88034 Bratislava/CSSR.