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60/312,756 17 August 2001 (17.08.2001) US(71) Applicant: **ANTARES PHARMA, INC.** [US/US]; 161 Cheshire Lane, Suite 100, Minneapolis, MN 55441 (US).(72) Inventors: **PASS, Franklin**; 2707 Burnham Blvd, Minneapolis, MN 55416 (US). **VELUSSI, Mario**; Casa di Cura "Pineta del Carso", Viale Stazione 26, I-34011 Aurisina (IT).(74) Agent: **FANUCCI, ALLAN, A.**; Winston & Strawn, 1400 L Street, N.W., Washington, DC 20005 (US).

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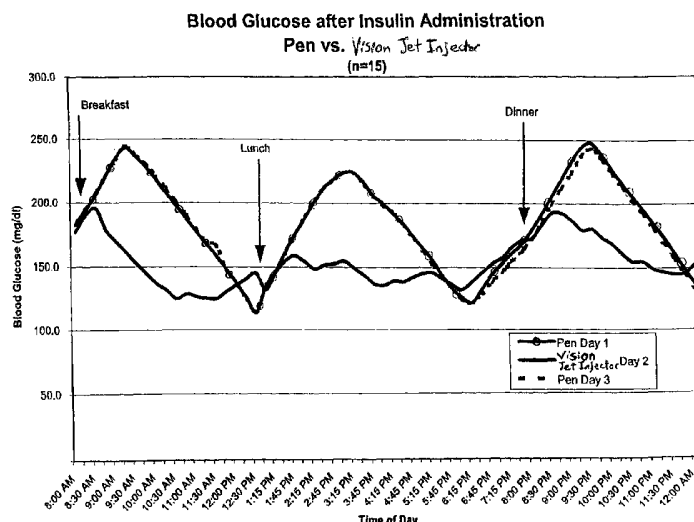
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(54) Title: ADMINISTRATION OF INSULIN BY JET INJECTION



(57) **Abstract:** The invention relates to a method for minimizing mean blood glucose levels in an insulin dependent patient by administering insulin to the patient in a sufficiently fast manner to provide a difference of 50% or less between high and low blood glucose levels. Advantageously, the insulin is administered to the patient by jet injection and the high and low blood glucose levels differ by an amount that is less than that which would be obtained after injection of insulin by a conventional needle syringe. The invention also relates to a method for reducing mean blood glucose levels in an insulin dependent patient that is receiving insulin through a conventional syringe and needle arrangement. This method provides for administration of the insulin to the patient by jet injection rather than by the syringe by substituting a jet injector for the syringe.



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INTERNATIONAL SEARCH REPORT

International application No.

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A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : A 61M 5/30

US CL : 604/68

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 604/68-72

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
Medline

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5,304,128 A (HABER et al) 19 April 1994 (19.04.1994), see entire document.	1,9,15
X	US 5,865,795 A (SCHIFF et al) 02 February 1999 (02.02.1999), see entire document.	1,9,15-22,25
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Y		23-24,26-31

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Further documents are listed in the continuation of Box C.

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See patent family annex.

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"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed	

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