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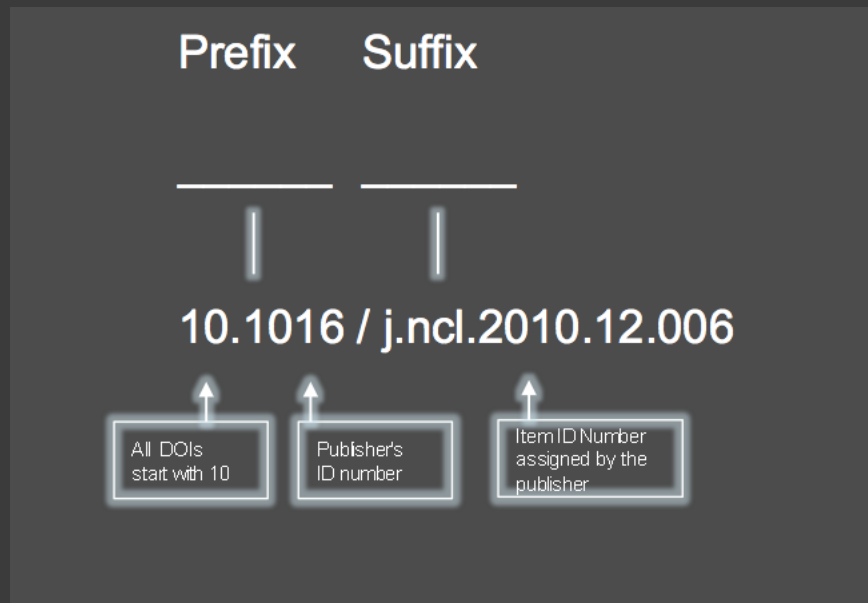
The new APA citation style manual now requires a **Digital Object Identifier (DOI)**. A DOI is an unique identifier that provides a persistent link to an online article. The DOI is assigned by a scholarly publisher and is always associated with the article unlike the URL which can change.

Example:

Bowling, A. C. (2011). Complementary and alternative medicine and multiple sclerosis. *Neurologic Clinics*, 29(2), 465-480.  
doi:10.1016/j.ncl.2010.12.006

What does a DOI look like?

The DOI is made up of two parts – a prefix and suffix



Where can you find DOIs?

There are several ways to find an article's DOI:

- Some online databases such as PsycINFO or MEDLINE will supply DOIs within the citations (if available).
- If a journal publisher uses DOIs, they will usually print the DOI on the first page of the article.

# Online Databases

Look for DOI  
in the citation

The screenshot shows the SciVerse Scopus interface. At the top, there are navigation links for Hub, ScienceDirect, Scopus, and Applications. The main header includes 'Search | Sources | Analytics | My alerts | My list | My settings'. A 'Quick Search' box is visible. Below the search bar, there are options to 'View search history', 'Back to results 1 of 770', and 'Next >'. A toolbar contains icons for 'Download PDF', 'Export', 'Print', 'E-mail', and 'Create bibliography'. The article title is 'American Journal of Gastroenterology', Volume 107, Issue 1, January 2012, Pages 82-88. The ISSN is 0005-3857. The DOI '10.1038/ajg.2011.310' is circled in red, with a red callout box pointing to it containing the text 'Look for DOI in the citation'. Below the title, there are links for 'Check Availability' and 'Interlibrary Loan'. The article title is 'Risk of gastroparesis in subjects with type 1 and 2 diabetes in the general population'. The authors listed are Choung, R.S.<sup>a,d</sup>, Locke, G.R.<sup>a</sup>, Schleck, C.D.<sup>b</sup>, Zinsmeister, A.R.<sup>b</sup>, Melton, L.J.<sup>c</sup>, Talley, N.J.<sup>a,e</sup>. The affiliations are: <sup>a</sup> Division of Gastroenterology and Hepatology, Mayo Clinic, 200 First Street Southwest, Rochester, MN 55905, United States; <sup>b</sup> Division of Biomedical Statistics and Informatics, Mayo Clinic, Rochester, MN, United States; <sup>c</sup> Division of Epidemiology, College of Medicine, Mayo Clinic, Rochester, MN, United States; <sup>d</sup> Department of Internal Medicine, Institute of Digestive Diseases and Nutrition, Korea University College of Medicine, Seoul, South Korea; <sup>e</sup> Faculty of Health, University of Newcastle, Callaghan, NSW, Australia. The abstract begins with 'Objectives: In patients with diabetes mellitus (DM) and upper gastrointestinal symptoms, a diagnosis of diabetic gastroparesis is often considered, but population-based data on the epidemiology of diabetic gastroparesis are lacking. We aimed to estimate the frequency of and risk factors for gastroparesis among community subjects with DM. Methods: In this population-based, historical cohort study, the medical records linkage system of the Rochester Epidemiology Project was used to identify 227 Olmsted County, MN residents with type 1 DM in 1995, a random sample of 360 residents with type 2 DM, and an age- and sex-stratified random sample of 639 nondiabetic residents. Using defined diagnostic criteria, we estimated the subsequent risk of developing gastroparesis in each group through 2006. The risk in DM, compared with frequency-matched community controls, was assessed by Cox proportional hazards modeling. Results: The cumulative proportions developing gastroparesis over a 10-year time period were 5.2% in type 1 DM, 1.0% in type 2 DM, and 0.2% in controls. The age- and gender-adjusted hazard ratios (HRs) for gastroparesis (relative to controls) was 33 (95% confidence interval (CI): 4.0, 274) in type 1 DM and 7.5 (95% CI: 0.8, 68) in type 2 DM. The risk of gastroparesis in type 1 DM was significantly greater than in type 2 DM (HR: 4.4 (1.1, 17)). Heartburn (HR: 6.8 (1.7, 25)) at baseline was associated with diabetic gastroparesis in type 1 DM. Conclusions: Gastroparesis is relatively uncommon in patients with DM, although an increased risk for gastroparesis was observed in type 1 DM. © 2012 by the American College of Gastroenterology.' On the right side, there are sections for 'Cited by since 1996' (This article has been cited 0 times in Scopus.), 'Related documents' (Showing the 2 most relevant related documents by all shared references: De Block, C.E.M., De Leeuw, I.H., Pelckmans, P.A. Current concepts in gastric motility in diabetes mellitus (2006) Current Diabetes Reviews; Horowitz, M., O'Donovan, D., Jones, K.L. Gastric emptying in diabetes: Clinical significance and treatment (2002) Diabetic Medicine), and 'Find more related documents in Scopus based on: Authors'.

## Risk of Gastroparesis in Subjects With Type 1 and 2 Diabetes in the General Population

Rok Seon Choung, MD<sup>1,4</sup>, G. Richard Locke III, MD<sup>1</sup>, Cathy D. Schleck, BS<sup>2</sup>, Alan R. Zinsmeister, PhD<sup>2</sup>, L. Joseph Melton III, MD<sup>3</sup>, and Nicholas J. Talley, MD, PhD<sup>1,5</sup>

**OBJECTIVES:** In patients with diabetes mellitus (DM) and upper gastrointestinal symptoms, a diagnosis of diabetic gastroparesis is often considered, but population-based data on the epidemiology of gastroparesis are lacking. We aimed to estimate the frequency of and risk factors for gastroparesis among community subjects with DM.

**METHODS:** In this population-based, historical cohort study, the medical records linkage system of the Rochester Epidemiology Project was used to identify 227 Olmsted County, MN residents with type 1 DM in 1995, a random sample of 360 residents with type 2 DM, and an age- and sex-stratified random sample of 639 nondiabetic residents. Using defined diagnostic criteria, we estimated the subsequent risk of developing gastroparesis in each group through 2006. The risk in patients with DM with frequency-matched community controls, was assessed by Cox proportional hazards regression.

**RESULTS:** The cumulative proportions developing gastroparesis over a 10-year time period were 1.0% in type 1 DM, 1.0% in type 2 DM, and 0.2% in controls. The age- and gender-adjusted hazard ratios for developing gastroparesis (relative to controls) were 33 (95% confidence interval [CI], 1.1, 68) in type 1 DM, 7.5 (95% CI: 0.8, 68) in type 2 DM. The risk of developing gastroparesis in type 1 DM was significantly greater than in type 2 DM (HR: 4.4 (1.1, 17)). Heartburn (OR: 1.7, 25) at baseline was associated with diabetic gastroparesis in type 1 DM.

**CONCLUSIONS:** Gastroparesis is relatively uncommon in patients with DM, although an increased risk for gastroparesis was observed in type 1 DM.

*Am J Gastroenterol* 2012; 107:82–88. doi:10.1038/ajg.2011.310; published online 15 November 2011

### INTRODUCTION

Gastroparesis is a clinical syndrome characterized by delayed gastric emptying in the absence of mechanical obstruction of the stomach (1). Symptoms of gastroparesis are variable but may include early satiety, nausea, vomiting, bloating, and upper abdominal pain. In several studies based on patients seen at tertiary centers, diabetes mellitus (DM) accounted for almost one-third of gastroparesis cases (2–4). Diabetic gastroparesis can result in nutritional compromise, impaired glucose control, and a poorer quality of life, independent of other factors such as age, tobacco and alcohol use, or type of diabetes (4–6).

The epidemiology of diabetic gastroparesis is largely unknown. The prevalence of gastroparesis is difficult to estimate because of the poor correlation of symptoms with gastric emptying (3,7).

Cross-sectional studies (8–10), in most cases using radionuclide techniques to measure gastric emptying, have established that gastric emptying of a solid or nutrient liquid meal is abnormally slow in up to 30–50% of outpatients with long-standing type 1 or type 2 DM. However, these studies were all undertaken in referral centers and almost certainly overestimate the prevalence of the condition because of referral and selection bias (8–10). The incidence (new onset) of diabetic gastroparesis in the general population has not to our knowledge been reported.

In considering the mechanisms responsible for abnormal gastric motor function in DM, two major factors have been suggested, namely, autonomic neuropathy and sustained hyperglycemia (11–15). Traditionally, gastrointestinal (GI) symptoms in diabetic patients have been attributed to disordered motor function as a

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Received 22 October 2010; accepted 2 August 2011



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| The American Journal of Gastroenterology   | Choung  | 0005-3722 | 107    | 1     | 82   | 2012 |
| doi:10.1038/ajg.2011.310   | <a href="http://dx.doi.org/10.1038/ajg.2011.310">http://dx.doi.org/10.1038/ajg.2011.310</a> |           |        |       |      |      |
| Risk of Gastroparesis in Subjects With Type 1 and 2 Diabetes in the General Population |   |           |        |       |      |      |



If you have a DOI but do not know how to get the article:

- Some databases include a DOI search field
- Go to a DOI resolver such as CrossRef

# DOI Search Field

The screenshot shows the Scopus search interface. At the top, there are logos for SciVerse and Scopus, and navigation links for Hub, ScienceDirect, Scopus, and Applications. Below that is a menu with Search, Sources, Analytics, My alerts, My list, and My settings. The main search area is titled "Document search" and includes tabs for Author search, Affiliation search, and Advanced search. The search input field contains "10.1038/ajg.2011.310" with a suggestion "E.g., 10.1016/j.biomaterials.2006.02.011". The "in" dropdown menu is set to "DOI" and is circled in black. Below the search field are options to "Add search field" and a "Search" button. The "Limit to:" section includes "Date Range (inclusive)" with radio buttons for "Published" (selected) and "Added to Scopus in the last 7 days". The "Date Range" is set to "All years" to "Present". The "Document Type" dropdown is set to "All". The "Subject Areas" section has four checked options: "Life Sciences (> 4,300 titles)", "Physical Sciences (> 7,200 titles)", "Health Sciences (> 6,800 titles. 100% Medline coverage)", and "Social Sciences & Humanities (> 5,300 titles)". A "Search" button is located at the bottom right of the search area.

Search for: 10.1038/ajg.2011.310  
E.g., 10.1016/j.biomaterials.2006.02.011

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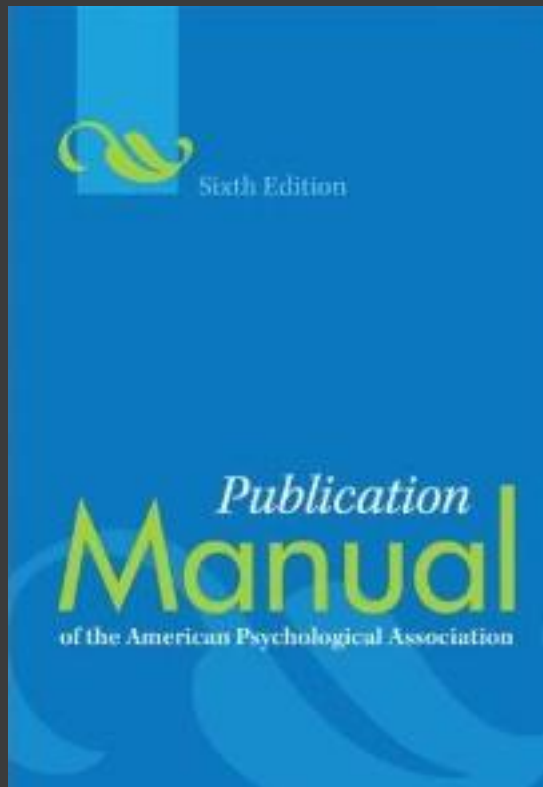
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Some articles do not have a DOI. The DOI system is fairly new, so articles published prior to 2000 are less likely to have a DOI.

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- Give the exact URL of the article (if it is open access).
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For more information about DOIs, please see page 188 in the APA Publication Manual (6<sup>th</sup> edition).

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