Table 2: Evidence table – Duerksen et al. (2010)

Study type	Non-randomised comparative cross-sectional survey
Country	Canada
Number of patients	N=376 women
quality	1. Did the study have a clearly focused aim? Yes 2. Was the cohort recruited in an acceptable way? No - all subjects must have had bone mineral density ANzd coeliac serology - suggests suspicion of CD already apparent in this population 3. Was the exposure accurately measured to minimise bias? Yes 4. Was the outcome accurately measured to minimise bias? Yes 5. Have the authors identified all important confounding factors? Have they taken account of confounding factors in the design/analysis? No - subjects may have been diagnosed with CD prior to having bone scan - no control for when one had serology and bone scan I.e whether they then became a treated CD patient in GFD at time of bone scan 6. Was the follow-up of subjects complete enough? Was the follow-up of subjects long enough? NA

<table>
<tr><td></td><td>
7. What are the results? cD associated with reduced bone mineral density
8. How precise are the results? Precise - low SE but no CI given
9. Do you believe the results? Yes
10. Can the results be applied to the local population? Yes
11. Do the results fit with other available evidence? Yes
12. What are the implications of this study for practice? Women with low bone mineral density should be offered testing for CD
</td></tr>
<tr><td>Study population</td><td>
Inclusion: women in the province of Manitoba with CD serology (the Manitoba BMD database was linked to the provincial CD serology database); patients aged 20 years or older at baseline with BMD results preceding serologic testing by 6 months or less

Exclusion: patients with repeat serology (since these individuals often have a diagnosis of CD and serology is monitored to assess the effect of a GFD), patients with repeat BMD after CD serology to minimise any potential confounding effect of a GFD

<table>
<tr><th></th><th>TTG/EMA seronegative cases (n=345)</th><th>TTG/EMA seropositive controls (n=31)</th><th>AGA seronegative cases (n=285)</th><th>AGA seropositive controls (n=371)</th></tr>
<tr><td>Mean age (years)</td><td>62.8±12.4</td><td>55.8±12.1[1]</td><td>62.0±12.8</td><td>62.2±12.4</td></tr>
<tr><td>Weight (kg)</td><td>65.3±15</td><td>65.1±16.3</td><td>65.6±15.4</td><td>65.0±15.0</td></tr>
<tr><td>Height (cm)</td><td>160.0±6.9</td><td>163.1±6.6[1]</td><td>160.1±6.9</td><td>160.8±7.2</td></tr>
<tr><td>BMI (kg/m^2)</td><td>25.5±5.3</td><td>24.5±6.2</td><td>25.6±5.5</td><td>25.1±5.3</td></tr>
</table>
(values are ±SD)
[1] $p < 0.05$, EMA seronegative vs seropositive
</td></tr>
<tr><td>Control</td><td>Individuals with negative serology</td></tr>
<tr><td>Length of follow-up</td><td>n/a</td></tr>
<tr><td>Details of coeliac testing</td><td>
1996-2007: EMA + AGA
2000-2007: also included TTG
EMA – incubation with human umbilical cord substrate before being used with fluorescein-conjugated guinea pig antihuman immunoglobulin A (positivity if fluorescence is seen at dilutions of 1:5 or greater) (used since 1996 onwards)
AGA – ELISA-based kit (EUROIMMUN, Germany; 20 relative units/mL or greater were considere positive)
From 2000-2003 – guinea pig transglutaminase assay was used but since 2003, TTG were measured using ELISA (EUROIMMUN, Germany; 20 relative units/mL or greater considered positive)
</td></tr>
<tr><td>Results</td><td>
BMD data:
<table>
<tr><th></th><th>TTG/EMA seronegative cases (n=345)</th><th>TTG/EMA seropositive controls (n=31)</th><th>AGA seronegative cases (n=285)</th><th>AGA seropositive controls (n=71)</th></tr>
<tr><td>Mean lumbar spine T score</td><td>–1.98±1.62</td><td>–2.38±1.67</td><td>–1.94±1.70</td><td>–2.24±1.42</td></tr>
</table>
</td></tr>
</table>

	Mean lumbar spine Z score	–0.78±1.55	–1.52±1.64[1]	–0.79±1.61	–1.04±1.45
	Mean total hip T score	–1.35±1.34	–1.79±1.15	–1.29±1.4	–1.69±1.04[1]
	Mean total hip Z score	–0.29±1.27	–1.05±1.13[1]	–0.27±1.32	–0.64±1.06[1]
	Mean femoral neck T score	–1.68±1.07	–1.86±0.82	–1.63±1.12	–1.90±0.83[1]
	Mean femoral neck Z score	–0.26±1.08	–0.74±0.83[1]	–0.24±1.13	–0.49±0.86[1]
	Mean trochanter T score	–1.63±1.31	–2.18±1.21[1]	–1.58±1.35	–2.00±1.08
	Mean trochanter Z score	–50±1.26	–1.32±1.19[1]	–0.47±1.31	–0.90±1.10
	Proportion osteoporotic (ie. minimum T score < –2.5)	44.8% (152)	67.7% (21) [1]	44.8% (125)	52.1% (37)
	Months between BMD testing and serology	3.1±1.8	2.9±1.8	3.1±1.8	3.1±1.9
	(values are ±SD) [1] p < 0.05, EMA seronegative vs seropositive (dual-energy X-ray absorptiometry measurements were performed with pencil-beam instrument before 2000 (Lunar DPX, GE Lunar, Madison, WI) and using a fan-beam instrument after 2000 (Lundar Produgy, GE Lunar, Madison, WI)				
Source of funding	Not reported				
Conflicts of interest	Not reported				
Comments	Some of the patients included in this study with EMA positivity who were over 40 may be included in Duerksen et al. (2011)				

Definitions of abbreviations are given at the end of this document.