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DTD 4.3 release note

DTD2001.01 — version 1.0, 16 March 2001, by Jeroen Hogendorp, Simon Pepping and Rob Schrauwen

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1 Introduction

This note describes the change requests that have been implemented in DTD 4.3. These CRs are:

- CR 181: Add a new keyword class for the classification scheme for the journal *Comptes Rendus de l'Académie de Sciences de la Terre et des Planètes*.
- CR 182: Support for ill-structured affiliations.
- CR 185: Add a separate entity for a black circle.
- CR 186: Introduce lists with free numbering.
- CR 192: Change the documentation regarding the language attribute of contribution.
- CR 193: Make `compound-f` and `compound-name` optional (DTD 4.3.1).
- CR 194: Add DOI attribute to `art`.
- CR 195: Increase the value of `LITLEN`.

2 Changes to the DTD

The change requests mentioned above induce the following changes to the DTD. There is also a change to the character entities and to the SGML declaration.

```
<!-- added new element list to %display (CR 186) -->
<!ENTITY % display "(fd|tbl|fig|textbox|upi|l|dl|list|qd|enun)" >

<!-- added cras-terre to %kwd-class; (CR 181) -->
<!ENTITY % kwd-class "(kwd|abr|jel|msc|pacs|mat|src|idt|psycinfo|
neurosci|inspec-cc|inspec-ct|inspec-chi|
stma|astronomy|geo|cras-terre)" >

<!-- add new doi attribute and change version of art (CR 194) -->
<!ELEMENT art - o ( copyright, preprint?, dochead?, doctopic?,
fm?, bdy?, bm? )>
<!ATTLIST art
version NUTOKEN #FIXED "4.3.1"
jid NMTOKEN #REQUIRED
aid NMTOKEN #REQUIRED
pii NMTOKEN #IMPLIED
doi CDATA #IMPLIED
docsubty %docsubty; fla
language %language; en
refers-to NMTOKENS #IMPLIED
refers-to-doi CDATA #IMPLIED>

<!-- added new element other-aff (CR 182) -->
<!ELEMENT other-aff - o ( no?, %data; )>
<!ATTLIST other-aff
id ID #IMPLIED>

<!-- added new element other-aff to content model of aug (CR 182) -->
<!ELEMENT aug - o ( ( ( collab | au ), cross-ref*, fn*,
cor?, ead* )+, ( aff | other-aff )* )>

<!-- added new elements list and list-item (CR 186) -->
<!ELEMENT list - - ( no?, st?, list-item+ )>
<!ATTLIST list
id ID #IMPLIED>
<!ELEMENT list-item - o ( no?, p+ )>
<!ATTLIST list-item
id ID #IMPLIED>

<!-- made compound-name and compound-f optional (CR 193) -->
<!ELEMENT stereochem - o ( compound-struct, compound-name?,
compound-f?, compound-info )
```

3 CR 181

In the journal *Comptes Rendus de l'Académie de Sciences de la Terre et des Planètes*, a classification scheme is used with fixed values. Confusingly, they appear on top of the article as if they were docheads. Each consists of a keyword (the main code, e.g. “Géochimie”) and a subkeyword (the second-order classification, e.g. “Géosciences de surface”).

To support this we have added a new keyword class `cras-terre` to `&kwd-class;`.

```
<kwdg class="cras-terre">
  <kwd>G<a>e<ac>&acute;</a>ochimie
  <kwd>G<a>e<ac>&acute;</a>osciences de surface</kwd>
</kwd>
</kwdg>
<kwdg class="cras-terre" language="en">
  <kwd>Geochemistry
  <kwd>Surface Geosciences</kwd>
</kwd>
</kwdg>
```

4 CR 182

While handling abstract issues, Production is confronted with great numbers of abstracts that have to be processed in a very short period. These abstracts typically have incomplete addresses and the author–affiliation coupling is often lacking. There is no time to find out which author is affiliated with which department. Often the country name is missing.

Fig. 1 shows a sample page of an abstract issue from the *Journal of the American College of Cardiology*. The abstract 874-3 on the bottom right-hand corner shows one incomplete affiliation (country is missing). Moreover, it is not indicated which of the authors works at which institution.

Only in certain carefully controlled cases, notably in abstract subdocuments, we allow a weaker version of the affiliation. To this end, we introduced the element `other-aff`, which is unstructured data. The element `other-aff` can be linked if the link is provided, but this need not be the case. Otherwise, implicit author–affiliation coupling is used, without specifying who works where.

The frontmatter of the abstract 874-3 in Fig. 1 would be captured as follows.

```
<fm>
  <atl>Prognostic Implications of Hysteresis of the
    ST-Segment/Heart Rate Recovery Loop Following Maximal
    Exercise
  <aug>
    <au><fnm>Christopher R.<snm>Cole</au>
    <au><fnm>Rahmi<snm>Lehtinen</au>
    <au><fnm>Jari<snm>Viik</au>
```

female. This information can help clinicians predict who will develop HF after ischemic events and institute appropriate therapy early in the course of the event.

11:45 a.m.

872-6 Prognostic Significance of Manifestations of Acute Congestive Heart Failure: Results from GUSTO IIb

Maria Cecilia Bahit, Monica Shah, Christopher Granger, Donald Beasley, Eric Bates, Harvey White, Eric Topol, Robert Califf. *Duke Clinical Research Institute, Durham, NC, USA*

Background: Congestive heart failure (CHF) in the setting of acute coronary syndromes (ACS) is associated with increased mortality. The aim of this study was to identify the prognostic significance of certain signs and symptoms in patients with CHF after ACS.

Methods: Using the database of GUSTO IIb (n = 12142), which compared hirudin vs. heparin in patients with ACS, we selected patients who developed congestive heart failure during the index hospitalization. CHF was defined by signs and symptoms of: 1) pulmonary edema on chest X-ray or 2) at least two of the following: rales $> \frac{1}{3}$ up, pulmonary capillary wedge pressure (PCWP) > 18 mmHg and cardiac index (CI) < 2.4 L/min/m², dyspnea, use of furosemide. We examined the relationship of CHF and its manifestations with 30-day mortality using multivariable logistic regression analysis.

Results: 534 (4.4%) patients developed CHF at a median time of 2 days. Patients with CHF had higher 30-day mortality than patients without CHF (25.1% vs 3.6%, p < 0.001). In a multivariable model, the significant independent predictors of death, and the percentage of patients with CHF with these features, were:

	% of patients	Odds Ratio	CI 95%	p
Hypoxemia	23%	3.26	2.06-5.15	0.0001
Hypotension	12%	2.74	1.47-5.10	0.0015
Pulmonary Edema	56%	1.48	0.96-2.28	0.075

After accounting for these three predictors in the multi variable model, the following did not independently predict 30-day mortality: rales $> \frac{1}{3}$ up, S₃ or S₄, ejection fraction $< 35\%$, and PCWP > 18 mmHg and CI < 2.2 .

Conclusion: The signs and symptoms of CHF that are the strongest predictors of 30-day mortality after ACS are hypoxemia, hypotension, and pulmonary edema on chest X-ray. This information may be helpful for risk stratification and for refining definitions of CHF following ACS that best reflect prognostic significance.

ORAL

874 Exercise Testing to Determine Prognosis

Tuesday, March 14, 2000, 10:30 a.m.–Noon
Anaheim Convention Center, Room 304A

10:30 a.m.

874-1 The Long-Term Predictive Value of Peak Oxygen Intake in 12,169 Men Referred for Cardiac Rehabilitation

Terence Kavanagh, Donald J. Mertens, Larry F. Hamm, Joseph Beyene, Johanna Kennedy, Roy J. Shephard. *Toronto Rehabilitation Centre and University of Toronto, Toronto, Ontario, Canada*

Background: An understanding of factors contributing to cardiac death is important to the risk stratification of patients enrolled in rehabilitation programs. Survival analysis was carried out on data from patients referred to a large outpatient cardiac rehabilitation program.

Methods: The sample included 12,169 men, aged 55.0 ± 9.6 years, consecutively referred for rehabilitation between 1968 and 1994 who underwent an initial cardiopulmonary exercise test. Using a single-centre observational study design, these patients (7,096 myocardial infarction (MI), 3,077 coronary artery bypass graft surgery (CABG), 1,996 documented ischemic heart disease (IHD)) were followed for a median time of 8.3 years from the time of the test. A Cox proportional hazards model tested factors associated with time to cardiac death in the entire sample and in each of the three diagnostic categories.

Results: A total of 1,383 cardiac deaths were recorded during follow-up (11.4% of the original sample). The most powerful predictor of prognosis in all four categories was measured peak oxygen intake ($\dot{V}O_{2peak}$). For the entire sample, $\dot{V}O_{2peak}$ values of < 15 , $15- < 22$, ≥ 22 mL.kg.min⁻¹, resulted in risk ratios of 1.00, 0.54, 0.32 respectively. Other significant indicators (p <

0.05) were smoking, angina, ST-segmental depression > 0.2 mV, age at referral, ventricular ectopy, and use of beta-blockers (protective). Results were similar for the MI category, with the exception of angina. In the CABG group, smoking, and in the IHD group, smoking, age and ST depression remained significant.

Conclusions: Our data indicate that measured $\dot{V}O_{2peak}$ provides valuable additional prognostic information in patients referred for cardiac rehabilitation.

10:45 a.m.

874-2 Which Patients With Low-Risk Treadmill Scores Need Perfusion Imaging for Risk Stratification?

Indu G. Poomima, Raymond J. Gibbons, Timothy F. Christian, David O. Hodge, Todd D. Miller. *Mayo Foundation; Rochester, MN, USA*

Background: The prevalence of severely abnormal perfusion scans in patients with low risk Duke treadmill scores is low ($< 10\%$). We sought to define a high-risk subgroup in this population using a previously published clinical score (CS), in whom perfusion imaging would more likely be abnormal.

Methods: We studied 1461 patients with low risk treadmill scores who had undergone exercise perfusion imaging. Follow-up was 92% complete at a mean of 7 ± 1 years. The CS is a simple score computed by assigning 1 point each to the following variables—diabetes, insulin use, male sex, history of MI, typical angina and each decade of age over 40. The perfusion studies were categorized by a 14-segment summed stress score (SSS) as normal (0–3), moderately abnormal (4–8) or severely abnormal (> 8).

Results: Five-year cardiac mortality for the entire population was low at 2%. The CS and the SSS were both significant (p < 0.0002) independent predictors of all 3 endpoints of 1) cardiac death 2) cardiac death/nonfatal MI 3) cardiac death/nonfatal MI/late revascularization. The CS classified 21% of patients as high-risk (score ≥ 5). The prevalence of severely abnormal scans was significantly higher in this subgroup (26% vs 9%; p < 0.001). The 5-year event-free survival for each of the endpoints based on the clinical score and the summed stress scores are shown below:

SSS	Cardiac Death		Cardiac Death/MI		Cardiac death/MI/Late Revascularization	
	CS < 5	CS ≥ 5	CS < 5	CS ≥ 5	CS < 5	CS ≥ 5
0–3	99%	96%	97%	94%	95%	87%
4–8	99%	100%	97%	97%	92%	80%
> 8	99%	84%	96%	78%	78%	66%
total	99%	94%	97%	91%	93%	81%

Conclusions: CS and SSS are independent predictors of cardiac events. Patients with CS < 5 had low rates of death and nonfatal MI irrespective of their perfusion findings. Patients with CS ≥ 5 have a higher rate of death/nonfatal MI (9% over 5 years) despite a low-risk treadmill score. Perfusion imaging is useful in this group for further risk stratification.

11:00 a.m.

874-3 Prognostic Implications of Hysteresis of the ST-Segment/Heart Rate Recovery Loop Following Maximal Exercise

Christopher R. Cole, Rami Lehtinen, Jari Viik, Lazaro A. Diaz, JoAnne M. Foody, Peter M. Okin, Michael S. Lauer. *Cleveland Clinic Foundation, Cleveland, OH; Cornell Medical Center, New York, NY, USA; Ragnar Granit Institute, Tampere University of Technology, Tampere, Finland*

Background: The ST-segment/heart rate (ST/HR) hysteresis loop, a novel computerized diagnostic variable, improves the diagnostic accuracy of the exercise ECG but its prognostic significance has not been explored.

Methods: Adults undergoing symptom-limited SPECT thallium exercise testing (n = 2480, age 60 ± 10 , 77% male) were followed 6.2 years. ST/HR hysteresis was defined as the area within the loop formed by plotting ST depression against HR during exercise and the first 3 min. of recovery, divided by the change in HR during recovery. A cutpoint of 0.001 mV (representative of counter-clockwise rotation) was used to define an abnormal response. Comparisons were made to the ST/HR index, a previously validated prognostic marker that adjusts the change in ST depression by heart rate change from baseline to peak exercise (abnormal ≥ 1.6 μ V/beat/min) and standard ST depression.

Results: There were 205 (8.3%) deaths. An abnormal ST/HR hysteresis and ST/HR index were present in 562 (23%) and 513 (21%) respectively. In univariate analyses, an abnormal ST/HR hysteresis was predictive of death [figure] (Relative Risk [RR] 1.47, 95% CI 1.08 to 2.01 P = 0.01). Standard ST analysis was not predictive. Adjusting for age, sex, risk factors, thallium, and the ST/HR index, ST/HR hysteresis remained predictive of outcome (adjusted RR for one standard deviation increase 1.26 95% CI 1.05–1.50, $\chi^2 = 6$, P = 0.01). The ST/HR index was not predictive in this model.

CARDIAC FUNCTION AND HEART FAILURE

Figure 1: Example page from an abstract issue.

```

<au><fnm>Lazaro A.<snm>Diaz</au>
<au><fnm>JoAnne M.<snm>Foody</au>
<au><fnm>Peter M.<snm>Onkin</au>
<au><fnm>Michael S.<snm>Lauer</au>
<other-aff>Cleveland Clinic Foundation, Cleveland, OH
<aff>Cornell Medical Center, <cty>New York, NY</cty>,
  <cny cny-code="us">USA</cny>
<aff>Ragnar Granit Insitute, Tampere University of
  Technology, <cty>Tampere</cty>,
  <cny cny-code="fi">Finland</cny>
</aug>
</fm>

```

If the affiliation is complete, `aff` can be used. There are also cases where the author–affiliation coupling is indicated by the author, but the affiliation is incomplete. In that case one can use the `no` subelement and the `id` attribute of `other-aff` to link the author and the `other-aff`.

This new element may only be used in subdocuments — these will be introduced for capturing full-text abstracts.

5 CR 185

The Grid contains the character entity `•` on position Bgo. It is displayed as a filled circle, of the same size as the open circle `○` and a collection of half-filled circles. This has always raised confusion, especially with suppliers, because a bullet is not equal to such a filled circle — both in meaning and size.

To avoid further confusion, and also in light of CR 186, we have added a new character entity `&z.cirf;` for the full circle. In the Grid a new position will be found for bullet, `•`, showing a somewhat smaller circle.

So, as from DTD 4.3 `•` will denote a real bullet and `&z.cirf;` a filled circle.

6 CR 186

The existing list item element `li` is the only remaining element in DTD 4.2 that has automatic numbering of its labels. Most other elements have a `no` element, which allows the copy-editor to follow the author. The list `l` allows just one presentation, described by the *Typographic Standardization*, but the authors use “(i)”, “(a)”, “a”, “1.”, etc. for ordered lists and bullets and en-dashes for unordered lists. It is also not possible to have lists whose numbering begins with anything other than 1.

In the past it has been said that `dl` is to be used for free-format lists. However, this has disadvantages both from the side of structure — a definition list should be used for definitions — and from the side of presentation rules. As a result, the existing lists were unpopular with Production’s suppliers.

This is why in DTD 4.3 the new element `list` has been introduced. A `list` consists of one or more `list-items` whose labels need to be specified in the `no` element. The element `list` will exist *beside* the existing `l`.

```
<list>
  <list-item><no>(i)</no><p>...
  <list-item><no>(ii)</no><p>...
  <list-item><no>(iii)</no><p>...
</list>

<list>
  <list-item><no>&ndash;</no><p>...
  <list-item><no>&ndash;</no><p>...
</list>
```

Note that a “tab” list can be obtained by creating a list whose items do not have a `no`. Hence, the `l` can be deprecated in the future.

7 CR 192

The language attribute of `contribution` has been the subject of discussion. The documentation now states that if a contribution is written in a language other than the language of the article, the attribute needs to be set. In practice, this is not possible. For instance, in many cases the title of the reference is not given, so the language cannot be known. In other cases, the copy-editor might not know which language is used. Hence the documentation has been clarified and now states that if the attribute is omitted, one can make no assumptions about the language. If it is given, it is the language of the contribution.

Moreover, a few codes from ISO 639 have changed: `in` (Indonesian) has been replaced by `id`; `iw` (Hebrew) has been renamed to `he`; `ji` (Yiddish) has been renamed to `yi`; and `sh` (Serbo-Croatian) has been removed. Even though these changes are not backward compatible, we have made them in DTD 4.3.

8 CR 193

The element `stereochem` was introduced in DTD 4.2. It has become apparent that the compound name and the compound formula are not (and cannot be) always available. Hence these elements have been made optional. At least one of them is expected in a document; this will be checked by the SGML QC tool.

9 CR 194

The main identifier of an article is currently the PII, supported in the DTD via the `pii` attribute of `art`. The DOI is the emerging replacement. Within Elsevier Science, the DOI can currently be deduced from the PII, but there are proposals, e.g. by Hilde van der Togt, that this might

change. Other publishers are using the DOI. To allow transition to DOIs, the `doi` attribute has been added to `art`. Since DOIs can have many forms, its type has to be CDATA.

Until explicitly announced, the `pii` attribute will still be used in Production, and the `doi` omitted.

As a consequence, it should also be possible to refer to a DOI. Hence we have also added an attribute `refers-to-doi` of type CDATA.

It is worthwhile to notice that `inter-ref` already supports references to DOIs (see the DTD documentation).

10 CR 195

The length of the attribute `refid` of `cross-ref` is governed by the value `LITLEN` in the SGML declaration. The value was too small for some cross-references with many targets. We have decided to increase the value of `LITLEN` to 4096.